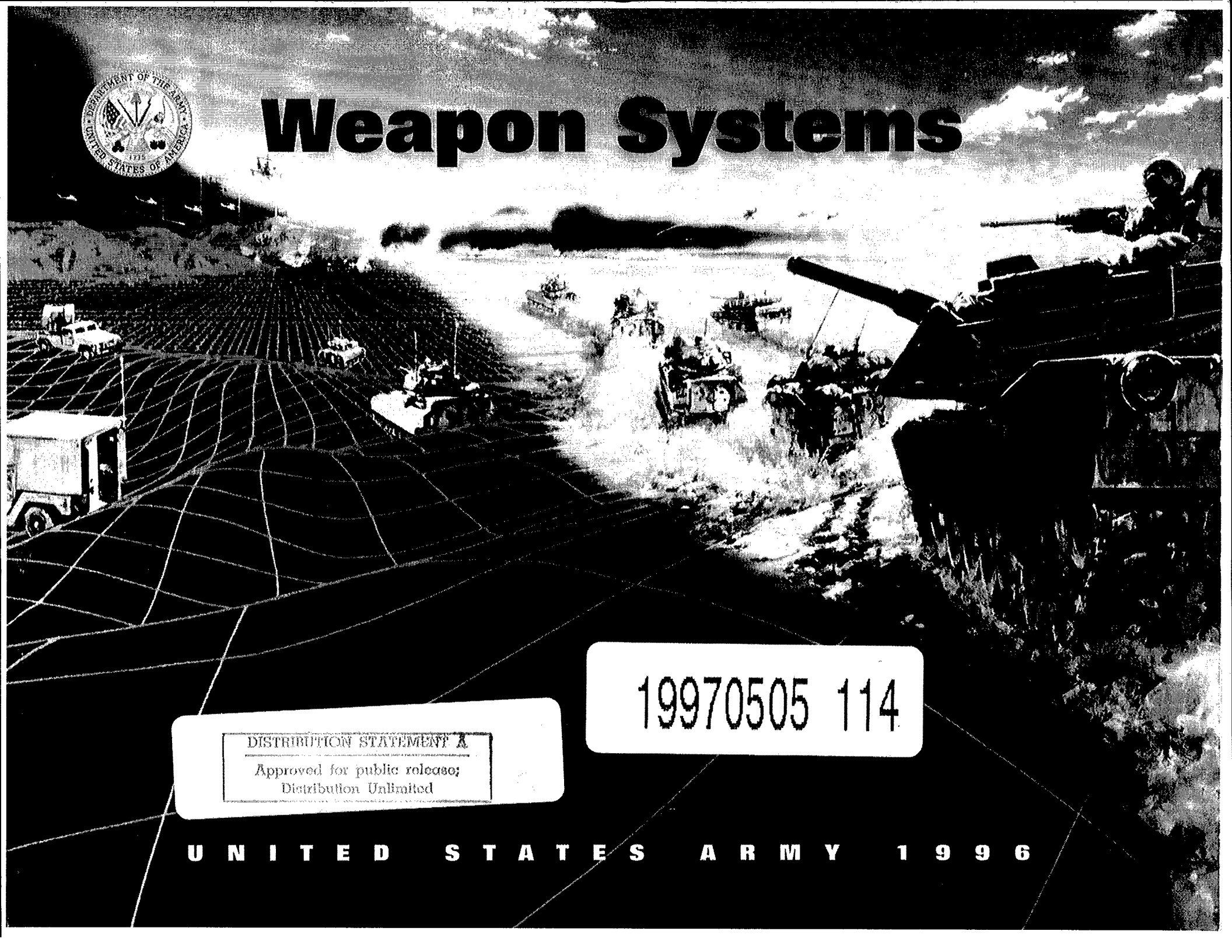
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To the Reader:

The Army continues to evolve, parlaying fewer resources into an improved capability to respond to contemporary and future threats to national and international security. Force XXI is the term used to describe how the United States Army of the Twenty First Century will prevail both in total war, and in low intensity conflict, anywhere in the world. Force XXI will be well equipped for its growing leadership role outside of direct armed confrontation, including peace-keeping, counter-terrorism, counter-proliferation, and disaster relief.

Adapting to force reduction, the Army is using cutting edge technology as a strength multiplier. Force XXI's decisive material advantage on the battlefield will be derived from the combined effectiveness of weapons, information, and communications systems. These systems will be integrated through a C4I structure that will maximize flexibility of response, lethality, and reaction speed, while minimizing collateral damage and civilian casualties.

The weapons systems that the Army is choosing to develop are critical to the realization of Force XXI. This handbook outlines the Army's major weapons systems and provides the context for understanding where each system fits in the integrated approach of Force XXI. It is our intent that you find this book informative in content, and practical in design.

Ronald Hite
Lieutenant General, GS
Military Deputy to the ASA(RDA)

Gilbert F. Decker
Assistant Secretary of the Army
(Research, Development and Acquisition)

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WEAPON SYSTEMS (Continued)

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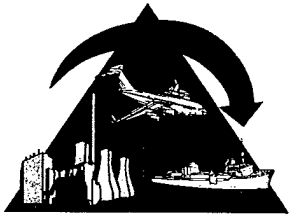
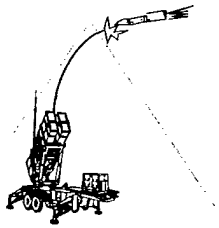
This book is divided into five **Modernization Objective** sections. The systems are listed only in the Modernization Objective section to which the system adds the most capability.

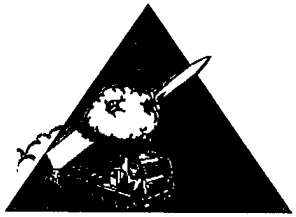


Project & Sustain

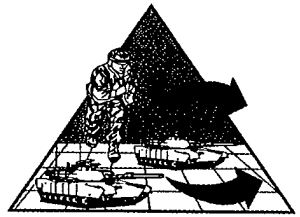


Protect The Force

Win Information War

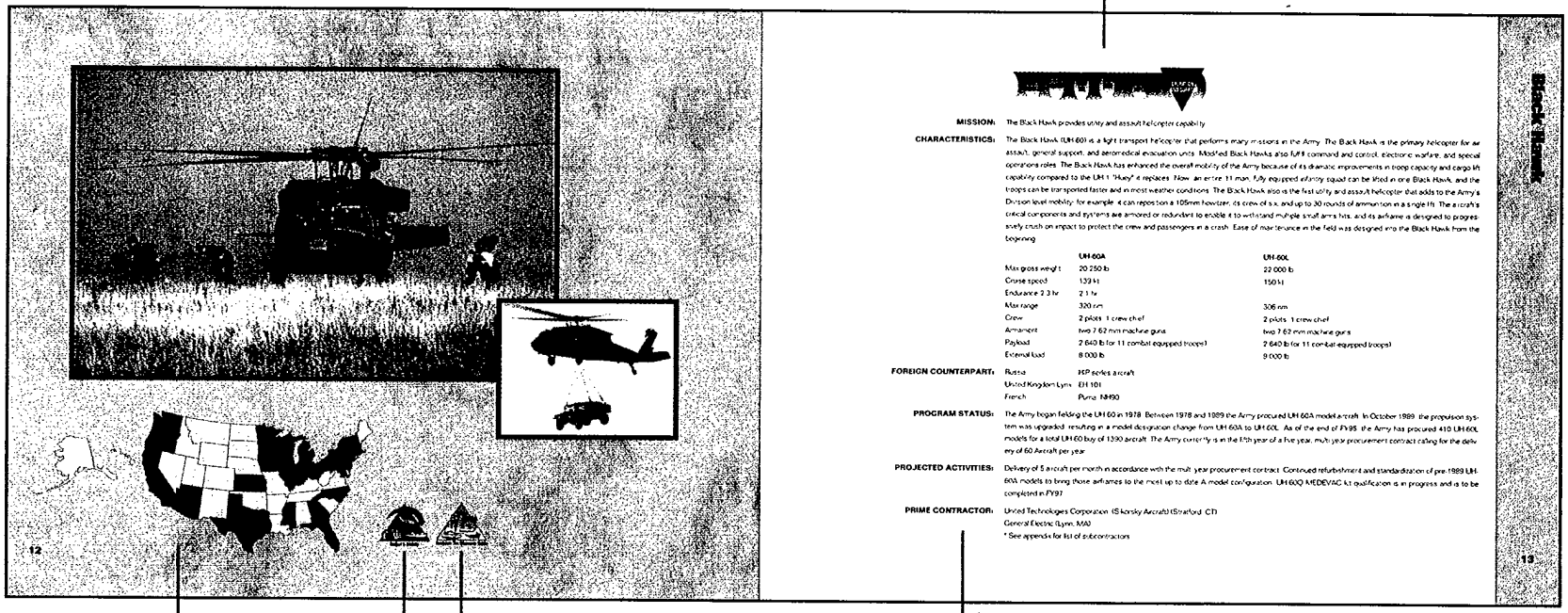


Conduct Precision Strikes



Dominate The Maneuver Battle

The Life Cycle Management Model shows the development stage that the system is in. The terms are explained on the facing page.



MISSION: The Black Hawk provides utility and assault helicopter capability

CHARACTERISTICS: The Black Hawk (UH-60) is a light transport helicopter that performs many missions in the Army. The Black Hawk is the primary helicopter for air assault, general support, and aeromedical evacuation units. Modified Black Hawks also fulfill command and control, electronic warfare, and special operations roles. The Black Hawk has enhanced the overall mobility of the Army because of its dramatic improvements in troop capacity and cargo lift capability compared to the UH-1 "Huey" it replaces. Now, an entire 11 man, fully equipped infantry squad can be lifted in one Black Hawk, and the troops can be transported faster and in most weather conditions. The Black Hawk also is the first utility and assault helicopter that adds to the Army's Division level mobility; for example, it can reposition a 105mm howitzer, its crew of six, and up to 30 rounds of ammunition in a single lift. The aircraft's critical components and systems are armored or redundant to enable it to withstand multiple small arms hits, and its airframe is designed to progressively crush on impact to protect the crew and passengers in a crash. Ease of maintenance in the field was designed into the Black Hawk from the beginning.

	UH-60A	UH-60L
Max gross weight	20 250 lb	22 000 lb
Cruise speed	139 kt	150 kt
Endurance 2.3 hr	2.1 hr	
Max range	320 nm	306 nm
Crew	2 pilots, 1 crew chief	2 pilots, 1 crew chief
Armament	two 7.62 mm machine guns	two 7.62 mm machine guns
Payload	2 640 lb for 11 combat equipped troops	2 640 lb for 11 combat-equipped troops
External load	8 000 lb	9 000 lb

FOREIGN COUNTERPART: Russia: Mil series aircraft; United Kingdom/Lynx: EH 101; French: Puma, NH90

PROGRAM STATUS: The Army began fielding the UH-60 in 1978. Between 1978 and 1989 the Army procured UH-60A model aircraft. In October 1989, the propulsion system was upgraded, resulting in a model designation change from UH-60A to UH-60L. As of the end of FY95, the Army has procured 410 UH-60L models for a total UH-60 buy of 1390 aircraft. The Army currently is in the fifth year of a five year, multi-year procurement contract calling for the delivery of 60 A/c/craft per year.

PROJECTED ACTIVITIES: Delivery of 5 aircraft per month in accordance with the multi-year procurement contract. Continued refurbishment and standardization of pre-1989 UH-60A models to bring those airframes to the most up to date A model configuration. UH-60Q MEDEVAC kit qualification is in progress and is to be completed in FY97.

PRIME CONTRACTOR: United Technologies Corporation (Sikorsky Aircraft) (Stratford, CT)
General Electric (Lynn, MA)
* See appendix for list of subcontractors

The **U.S. Outline** highlights the states in which the prime and major subcontractors are located.

The **Modernization Objective icons** are displayed for all Modernization Objective to which the system adds capabilities.

The **Prime Contractor (s)** for the system is displayed. The major sub-contractors can be found listed in the Contractors by System and Contractors by State Appendices.

SCIENCE AND TECHNOLOGY (S&T): Efforts focused on the identification and development of promising technologies (not directly tied to specific acquisition programs) are collectively called science and technology programs. S&T encompasses programs in basic research, exploratory development, and advanced development.

CONCEPT EXPLORATION AND DEFINITION: The focus of this phase is on defining and evaluating the feasibility of alternative concepts and providing the basis for assessing the relative merits of the concepts. The objectives of this phase are to:

- Explore various material alternatives to satisfying the documented mission need,
- Define the most promising system concept(s),
- Develop supporting analyses and information to include identifying high risk areas and risk management approaches to support the Milestone I decision, and
- Develop a proposed acquisition strategy and initial program objectives for cost, schedule, and performance for the most promising system concept(s).

DEMONSTRATION AND VALIDATION (DEM/VAL): When warranted, multiple design approaches and parallel technologies are pursued within the system concept(s) during this phase. The objectives of this phase are to:

- Better define the critical design characteristics and expected capabilities of the system concept(s),
- Demonstrate that the technologies critical to the most promising concept(s) can be incorporated into system design(s) with confidence,
- Prove that the processes critical to the most promising system concept(s) are understood and attainable,
- Develop the analyses/information needed to support a Milestone II decision, and
- Establish a proposed Development Baseline containing refined program cost, schedule, and performance objectives for the most promising design approach.

ENGINEERING AND MANUFACTURING DEVELOPMENT (EMD): The objectives of this phase are to:

- Translate the most promising design approach developed in the Demonstration and Validation phase into a stable, producible and cost effective system design,
- Validate the manufacturing or production process, and
- Demonstrate through testing that the system capabilities:
  - Meet contract specification requirements, and
  - Satisfy the mission need and meet minimum acceptable operational performance requirements.

PRODUCTION AND DEPLOYMENT: System performance and quality will be monitored by follow-on test and evaluation during this phase. The objectives of this phase are to:

- Establish a stable, efficient production and support base,
- Achieve an operational capability that satisfies the mission need, and
- Conduct follow-on operational and production verification testing to confirm and monitor performance and quality and verify the correction of deficiencies.

OPERATIONS AND SUPPORT: This phase overlaps with the Production and Deployment phase, and begins after initial systems have been fielded. The objectives of this phase are to:

- Ensure the fielded system continues to provide capabilities required to meet the identified mission need, and
- Identify shortcomings or deficiencies that must be corrected to improve performance.

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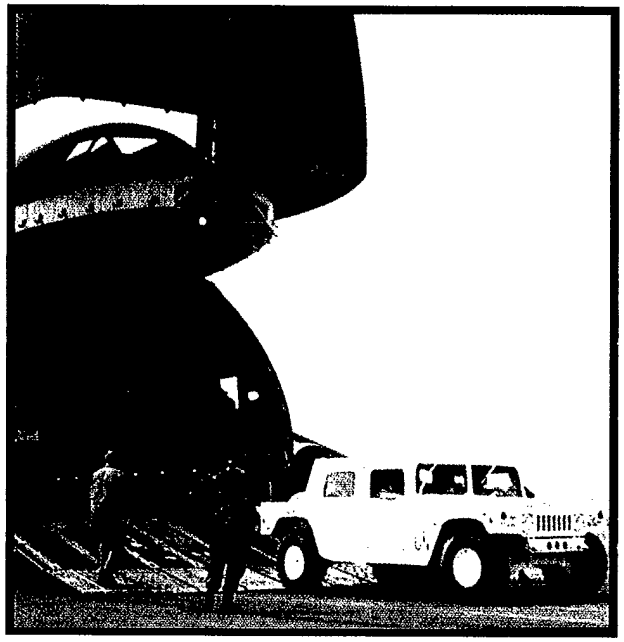
An Era of Change

"The Army of yesterday is not the Army of today. The Army of tomorrow will be vastly different from the Army we see today. Our core competencies have not changed, but our methodology is changing. The uncertainties of the world we live in demand this."

GEN Dennis J. Reimer
Chief of Staff, U.S. Army

We have entered an era of global change, where the world is moving from the Industrial Age to the Information Age. The technological advances of this era change the underpinnings of many societies and forcing societal institutions to reconsider their ways of doing business. America's national security apparatus and America's Army are no exception. The U.S. no longer faces a single monolithic threat around which to build its security and military strategies. The diffusion of technology allows both less-developed nations and non-state actors to pose a credible threat to U.S. interests and security. These new threats require a variety of military responses ranging from counterterrorist actions to peacekeeping to conventional combat operations. Other events, such as natural disasters and refugee crises, increasingly require the use of military assets as part of the U.S. response. Today, the U.S. faces a much wider range of challenges and is using its military more often in response to events.



The challenge facing America's Army is that it is being called upon to carry out more missions with fewer resources. As technology evolves, the Army must continue to modernize to maintain its advantage. As threats to U.S. security multiply, the Army must cope with the impact of the growing numbers and types of operations. A declining budget and force structure force the Army to find ways to become more efficient. The Army must be able to modernize and operate with fewer resources. The Army's response to that challenge is Force XXI. Force XXI is the Army's plan to use advanced technology as a force multiplier, creating a powerfully versatile and agile Army capable of meeting our nation's needs.

The Army Modernization Plan (AMP) is the roadmap for getting to Force XXI. The AMP describes what systems the Army needs to modernize and why. The modernization effort it describes differs dramatically from the modernization effort of the late 1970s and 1980s. The prior effort was based around "The Big Five," the five new systems the Army needed to defeat the Soviet conventional military threat in Europe. In the 1990s, the Army, recognizing the expanding scope

of threats and operations, is focusing on five capabilities-based Modernization Objectives. By optimizing Army capabilities within each objective, Force XXI will be the dominant force in any contingency or operation.

Weapon Systems, United States Army 1996 is a companion piece to the AMP. Issued by the Assistant Secretary of the Army for Research, Development and Acquisition (ASARDA), this book describes selected Army systems in detail, showing both the value of the system to the soldier in the field and the progress of the acquisition program. Each system supports one or more of the Modernization Objectives listed in the AMP. The AMP and its Modernization Objectives, in turn, describe how the Army of the future will support the National Security Strategy and the National Military Strategy. This book is intended to show you, the reader, how each system supports America's Army and by extension the security of our nation.

National Security Strategy

President Clinton, in his 1995 National Security Strategy, described a strategy of engagement and enlargement for the U.S. to pursue in the changing world environment. That strategy is centered around three primary objectives: Enhancing Our Security; Promoting Prosperity at Home; and Promoting Democracy. Each of these objectives is intended to promote stability, by eliminating sources of conflict and confronting it when it does arise. The goal is a more secure environment for the U.S. Of the President's objectives, Enhancing Our Security has the most direct role for the U.S. Armed Services. The U.S. military is the key to enhanced security and consequently the President's strategy has Maintaining a Strong Defense Capability as a central tenet. There are five components of that capability and America's Army is a major player in each:

- Deterring and Defeating Aggression in Major Regional Conflicts.
- Providing a Credible Overseas Presence.
- Countering Weapons of Mass Destruction.
- Contributing to Multilateral Peace Operations.
- Supporting Counterterrorism Efforts and Other National Security Objectives.

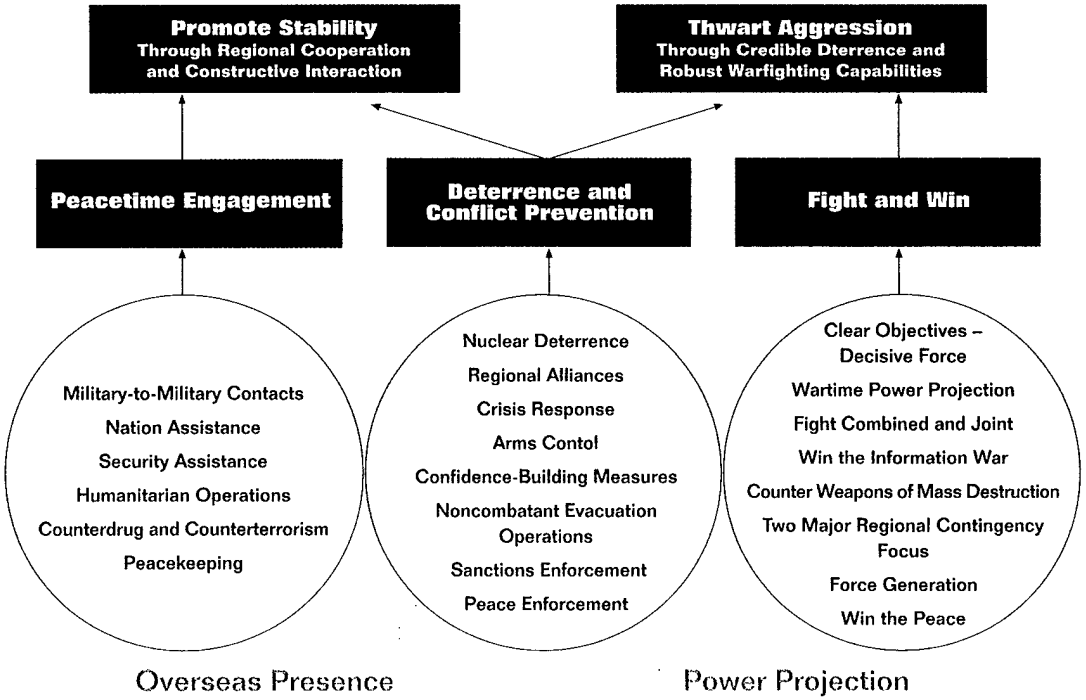
Army forces lie at the core of any effort to deter and defeat regional aggression through both overseas presence and power projection. Army units are stationed in Europe and the Pacific to provide a capability to deal with any aggression in either theater. As demonstrated in Kuwait, prepositioned equipment allows Army units to rapidly deploy and confront potential aggressors in regions where U.S. forces are not stationed. The Army is also working with the Air Force and Navy to improve U.S. capabilities to rapidly project its forces from the continental U.S. (CONUS) to anywhere in the world. The Army is also improving the self-deployment capability of its aviation systems and making its other systems lighter and easier to transport.

The Army is the lead service when it comes to peace operations, because it conducts many such operations and trains specifically for them. Army units and systems are also central to U.S. efforts to deal with the threats of weapons of mass destruction (WMD), terrorism, narcotics and other non-conventional missions. Implementation of the President's National Security Strategy requires heavy reliance on America's Army and Force XXI.

National Military Strategy

The National Military Strategy (NMS) describes the path toward realizing the national security objective of Enhanced Security. The NMS identifies two National Military Objectives which must be achieved in order for the strategy to be successful. These objectives are to Promote Stability and Thwart Aggression. To promote stability, the U.S. will use regional cooperation and

ACHIEVING NATIONAL MILITARY OBJECTIVES



constructive interaction with other nations to limit conflicts and their sources in many regions. The U.S. must also be able to thwart aggression, relying on a robust military to deter conflict where possible and using the military to defeat an aggressor should deterrence fail. The figure below shows the interrelationship of national military objectives and the three main categories of operations and operating principles.

The first category is Peacetime Engagement. Operations in this category offer the primary means for promoting stability. Military to Military Contacts, such as combined training exercises, offer the opportunity to impart democratic ideals and forge new, cooperative security relationships. Nation Assistance and Security Assistance programs promote stability by improving defensive capabilities and by bringing the U.S. and the recipient nations closer. Humanitarian Relief operations, such as recent ones in Rwanda, help stabilize the world environment by limiting the impact of natural disasters and refugee flows. Counterdrug and Counterterrorism operations, whether unilateral or multilateral, reinforce U.S. security against the threats posed by narcotics trafficking and international terrorism. Peacekeeping operations are an important means of averting conflict under certain circumstances. The current U.S. participation in the U.N. peacekeeping effort in the former Yugoslav republic of Macedonia is one example of how the U.S. can limit the spread of conflict through these operations.

The second category is Deterrence and Conflict Prevention. It identifies a set of operations and activities that are important to both promoting stability and thwarting aggression. These activities promote stability by providing security reassurance to key regions and they thwart aggression by demonstrating the ability of the U.S. to defeat an aggressor. Regional Alliances in which the U.S. participates in Europe and across all of Asia offer a clear demonstration of the U.S. commitment to peace and prosperity in these regions. Combined military training and other activities conducted in support of these alliances ensure the ability of the U.S. to respond in concert with its allies to any crisis. Crisis Response and the ability to rapidly project U.S. forces anywhere in the world are thus critical supporting elements of conflict prevention. Arms Control and Confidence Building

Measures help set up an environment of trust and security to reduce the risk of conflict. If a crisis begins to move towards open conflict, the U.S. will execute Noncombatant Evacuation Operations (NEOs) to move American citizens out of harm's way. Sanctions Enforcement and Peace Enforcement operations offer a final means to limit or halt a conflict before it expands.

When a state prepares for direct military action against U.S. interests, the capabilities and principles of war espoused under Fight and Win offer a final deterrent and warning. The U.S. will fight with clear objectives and decisive force, such that it is able to halt an aggressor promptly and decisively. The U.S. will use its Wartime Power Projection assets to move the necessary CONUS-based forces quickly to the theater. U.S. forces will Fight Combined and Fight Joint, tightly integrating the different branches, force components and, as necessary, foreign/allied forces. The U.S. intends to Win the Information War in any conflict thereby gaining a tremendous advantage over any opponent. U.S. forces aim to have a common view the battle that will give them the ability to strike more quickly and decisively. The U.S. will be prepared to Counter Weapons of Mass Destruction that an aggressor may use to blunt U.S. power projection. The U.S. is also prepared to fight Two Major Regional Contingencies (MRCs) nearly simultaneously, in order to deter conflict in other regions. Success in this area is dependent upon a Force Generation capability that will allow the rapid retraining, reorganization and redeployment of U.S. forces in order to meet more pressing needs, such as a second conflict. Finally, the U.S. intends to be able to Win the Peace after any conflict through the conduct of humanitarian relief, nation assistance and other operations.

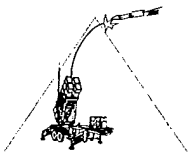
These operations, activities and principles are a comprehensive formula for the success of the National Military Strategy. America's Army as it moves towards Force XXI is in an excellent position to provide the warfighting CINCs with a ground force component that is fully interoperable with other force components and that can excel at the operations described above.

The Army Modernization Plan

The Army Modernization Plan (AMP) describes the what and why of the systems and capabilities that the Army will need to support the National Military Strategy into the next century. The plan is organized around the five Army Modernization Objectives: Project & Sustain, Protect the Force, Win the Information War, Conduct Precision Strike, and Dominate the Maneuver Battle. Each objective is a statement of capabilities that the Army will need in the future to retain an overwhelming technological and doctrinal advantage over opposing forces. The plan also describes the systems needed to realize those capabilities.

Project & Sustain describes those systems and capabilities needed to rapidly deploy U.S. forces into a potentially hostile area and to sustain and augment them as necessary once deployed. This objective covers the critical logistic systems needed to move a force to and within a theater and to keep that force supplied. It includes non-Army strategic lift programs like the USAF C-17 and the Navy's Large Medium Speed Roll-on/Roll-off Ship (LMSR). Army efforts to improve the self-deployability of systems like the Comanche and Longbow Apache also support this objective. Project & Sustain covers the workhorses of intratheater lift like the UH-60 Black Hawk, the High Mobility Multipurpose Wheeled Vehicle (HMMWV), the Family of Medium Tactical Vehicles, and the Palletized Load System. It also includes systems like the Total Distribution Program which track the

flow of supplies. Improved logistic efficiency will permit a move away from "supply push" to "just in time" logistics that will make optimal use of lift assets. Finally, it includes the systems like Force Provider, Family of Operational Rations and Deployable Medical Systems which improve the quality of life for soldiers in forward areas.



Protect the Force describes the systems and capabilities needed to enhance the survivability of U.S. forces against the wide range of modern battlefield threats. Once a force has been projected into a region, it must be able to defend itself against enemy deep strikes. If the forward assembly areas cannot be defended, the U.S. cannot easily build up its forces. The Army requires systems for theater missile defense and chemical and biological weapon detection and defense. The Theater High Altitude Area Defense System (THAAD) and Medium Air Defense System (MEADS) are two systems in this category. The Army must also improve the survivability of its forces in combat, which means enhancing soldier survivability through the development of items like lightweight body armor and systems that can help reduce the incidence of fratricide.

Win the Information War describes systems and capabilities needed to give U.S. forces an overwhelming information advantage in combat. Once the U.S. projects a force into a region and begins the build-up for the maneuver battle, the force needs to know where the enemy is and what it is doing. The RAH-66 Comanche will serve as the commander's "eyes and ears" to provide tactical reconnaissance and battlefield situational awareness. As the ground maneuver element of the joint force, the Army needs improved Command, Control, Communications, Computers and Intelligence (C4I) systems that will allow it to conduct deep simultaneous attacks against the enemy, while limiting the exposure of allied forces. This includes systems that will provide all commanders and soldiers with total situational awareness, allowing them to know where both friendly and enemy units are. It includes the sensors that will detect and identify targets as well as the systems that will interpret and move the data to the appropriate users. It also includes the systems that will protect information about the locations and numbers of friendly forces.

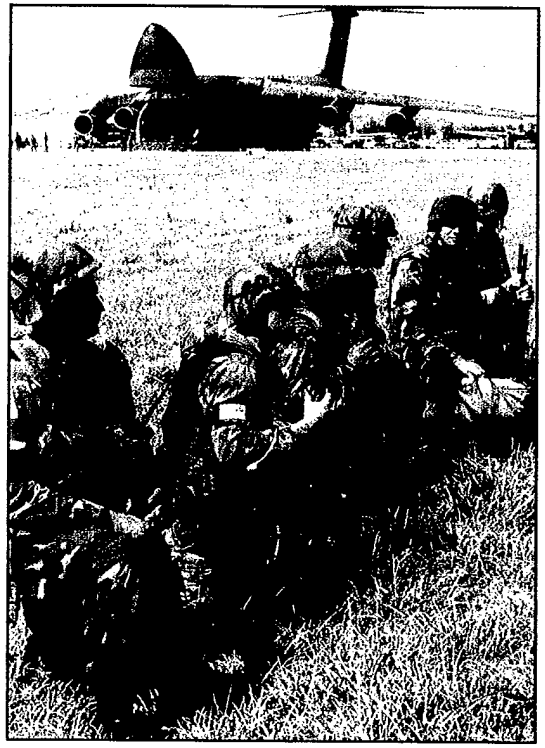
Conduct Precision Strike describes systems and capabilities needed to strike at enemy forces in their assembly areas and to shape the maneuver battlefield. As the projected force prepares to move to the maneuver battle, the Army must be able to destroy and disrupt the enemy as much as possible before Army maneuver units make contact with the enemy. Both the Longbow Apache and the Comanche will allow the commander to plan and execute the close and deep battles rapidly, day or night and in any weather. Systems such as the Army Tactical Missile System (ATACMS) and the Multiple Launch Rocket System (MLRS) using precision munitions will allow U.S. forces to engage and destroy the enemy before contact.

Dominate the Maneuver Battle describes the systems and capabilities needed to retain land force dominance over opposing forces. When Army maneuver units move to engage the enemy, they must have an overwhelming technological advantage to maximize the impact of their smaller numbers. A smaller Army needs to hit much harder, if it is to retain its dominance of the battlefield. This means providing upgrades to existing systems like Apache, Abrams and Bradley,

as well as acquiring new systems like Line of Sight Anti-Tank (LOSAT) and the Crusader advanced field artillery system. These systems will ensure that as U.S. maneuver units close with the enemy, they will have an overwhelming technological advantage, achieving modernization overmatch.

The capabilities represented by the Army Modernization Objectives are vital to the successful execution of the National Military Strategy. Peace Enforcement, Deterrence & Conflict Prevention, and Fight & Win all depend upon the capabilities of a modernized Army. Just as each planned Army system supports one or more Modernization Objectives, each Modernization Objective supports multiple elements of the National Military Strategy.

Within the realm of Peace Enforcement, U.S. operations and activities will involve the Army capabilities inherent in three of the five Modernization Objectives. Project & Sustain capabilities are critical to Peace Enforcement activities. The ability to move large amounts of supplies into a region and to sustain a force are what make U.S. participation in Humanitarian Operations and Peacekeeping Operations possible. Those logistic capabilities are also a factor in Nation Assistance Missions (such as road building in Panama and Guatemala) and in joint military exercises conducted under Security Assistance and Military-to-Military Contacts. Counterdrug and Counterterrorism Operations rely heavily on the advanced C4I systems the Army is acquiring to Win the Information War. For all of these operations, the U.S. must be able to Protect the Force it sends into a region, in the event that Peacetime Engagement suddenly deteriorates into conflict.



Operation Uphold Democracy offers a better illustration of how Army Modernization Objectives and Army systems are critical to U.S. Peacetime Engagement activities. The Army's ability to Project & Sustain the force was vital. Army units moved into Haiti aboard UH-60 helicopters operating off of the USS Eisenhower and USS America, and aboard U.S. Air Force transport aircraft. Once in Haiti, they relied on HMMWVs to move about the island and on other transport systems to move their supplies. The Army used the Total Asset Visibility (TAV)/In-Transit Visibility (ITV) system to precisely track its supplies and move them more efficiently to units in Haiti.

Uphold Democracy also relied on U.S. capabilities to Win the Information War. Advanced communications permitted the deployment of large numbers of small units across the island without jeopardizing their security. This communications link meant that Army units could get necessary intelligence information when they needed it and could summon reinforcements if they needed them. Winning the Information War means using interoperability, advanced communications, advanced intelligence systems and increased sharing of information to leverage a smaller force's ability to win.

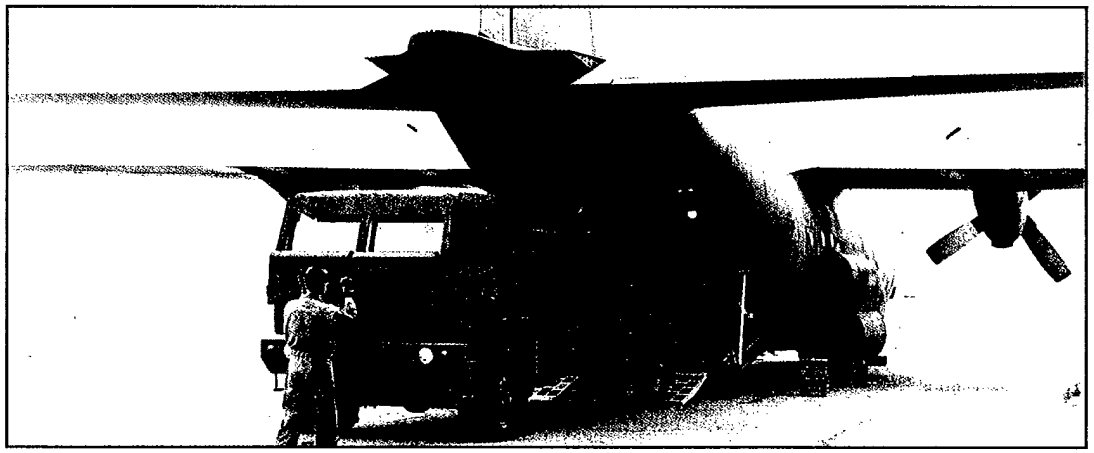
The Overseas Presence of U.S. Army forces is another Peacetime Engagement role that relies on Army systems and

Modernization Objectives. Today, U.S. Forces in Korea must remain alert for the possibility of war and be able to provide a core around which U.S. reinforcements can build, if necessary. In their normal peacetime role, the U.S. Army in Korea relies on Project & Sustain systems to maintain their forward bases. Protect the Force systems, like Patriot and the M40 Protective Masks, provide critical insurance against the possibility of sudden ballistic missile and/or chemical/biological attack. Win the Information War systems, like Guardrail Common Sensor and OH-58D Kiowa Warrior, help Army units monitor the situation along the demilitarized zone. More advanced Army systems like Comanche and Crusader will further improve the security of our forward deployed peacetime forces.

Within the realm of Deterrence & Conflict Prevention, the systems planned to meet all five Army Modernization Objectives are critical because they reduce an aggressor's chances of success against U.S. forces, thereby deterring hostile action. Project & Sustain capabilities become much more critical in a crisis. The ability to rapidly deploy forces with sufficient lethality enhances the deterrence value of the U.S. Army. The Armored Gun System (AGS) and Javelin give Army early entry forces a much greater capacity to defeat armored formations, reducing the ability of an aggressor to win the war before the Army's heavy units can arrive. Systems that Protect the Force are equally essential. Theater Missile Defense systems, like Patriot and ultimately Theater High Altitude Air Defense (THAAD) and Medium Extended Range Air Defense System (MEADS), ensure that the U.S. will be able to build-up its forces in a hostile theater. Nuclear, Biological and Chemical (NBC) weapons detection and defense systems also limit the ability of an enemy to use WMD to disrupt the arrival and deployment of reinforcements.

Deterrence & Conflict Prevention objectives are also dependent upon Winning the Information War. The ability to anticipate the moves of enemy forces and to realign your forces accordingly further reduces the likelihood of success for an aggressor. Advanced sensors and intelligence systems, faster and smaller computers, faster and more secure communications and interlinked data systems give commanders an unprecedented level of situational awareness and command and control. This information dominance can then be used in conjunction with systems for Conducting Precision Strike and Dominating the Maneuver Battle to devastate enemy forces throughout the theater.

The rapid deployment of U.S. Forces to Kuwait in November 1994 illustrates the critical role of Army systems and Modernization Objectives in Conflict Prevention. When Iraqi military deployments along the border of Kuwait prompted fears of another invasion, U.S. Army forces were among the first to respond. Elements of the 24th ID (Mechanized) flew to Kuwait to draw their prepositioned equipment, in an ideal demonstration of Project & Sustain capabilities. Additional Patriot batteries were flown in to Protect the Force against the possibility of ballistic missile attack. Win the Information War



systems gave the forces on the ground a link to the latest national intelligence information and kept them linked to one another. The 24th ID forces already represented a capability to Dominate the Maneuver Battle and they could have been augmented with additional heavy forces if needed. Conduct Precision Strike systems, like MLRS and ATACMS, could have been brought in as the situation demanded. In the future, any force deploying to such a contingency would have available an even wider range of systems to enhance the combat power of the deterrent force.

Within the realm of Fight & Win, tomorrow's Army will be designed to overwhelm any opposing force with a massive technological advantage. The Army is developing its systems and capabilities with joint and combined operations in mind. The Single Channel Air Ground Radio System (SINCGARS), the Army Global Command and Control System (AGCCS) and THAAD are just a few of the systems that have been designed with joint interoperability in mind. Other new systems, such as AGS, Line of Sight Anti-Tank (LOSAT) and the High Mobility Artillery Rocket System (HIMARS), are designed to be easily deployable aboard U.S. Air Force transport aircraft. Corps SAM/MEADS is being developed through an international cooperative effort involving several NATO allies. Other systems such as the M1A2 Abrams and the AH-64D Longbow Apache will contribute to combined operations through Foreign Military Sales (FMS) to allies. Force XXI is not a "stand-alone" capability, but will be a powerful part of an integrated military whole.

Desert Storm demonstrated the potential of some next generation systems and demonstrated a need for others. The Force XXI advanced warfighting experiments (AWEs) will demonstrate how the new Army will Fight & Win. Within Project & Sustain, Desert Storm revealed the need to improve the lethality of early entry forces and to improve the means of tracking and moving supplies. It demonstrated severe shortfalls in numbers of trucks and roll-on/roll-off transport ships. For Protect the Force, Desert Storm demonstrated the potential of Patriot as a Theater Missile Defense (TMD) system, but it also showed the need for systems designed specifically to fight the TMD battle.

Win the Information War was a category where Desert Storm showed some of the greatest possibilities for the future. The use of the Joint Strategic Tactical Airborne Radar System (JSTARS) to support the maneuver battle gave the first hints of how total situational awareness could alter warfare. However, the incidence of fratricide and its relationship to the rapid pace of battle demonstrated a need for much better information systems at all echelons. The Army is now developing the Battlefield Combat Identification System (BCIS) in response to the fratricide problem. The Army digitization effort will make it easier to

manage such rapid pace operations. The potential for Conducting Precision Strike was highly evident in Desert Storm. Apache helicopters using HELLFIRE missiles were instrumental in destroying early warning radar sites. The ability of MLRS and ATACMS to wreak havoc among Iraqi formations helped to shape the battlefield. With better sensors and more accurate, longer range munitions, Army precision strike capabilities will become even more devastating.

Nowhere was the future of warfare more evident than in U.S. Domination of the Maneuver Battle. In the space of 100 hours, U.S. forces advanced over 200 km annihilating the Iraqi units that stood in their way. U.S. Abrams tanks in many instances achieved one round kills against armored vehicles and routinely detected targets at ranges greater than 1500 meters. U.S. Bradley Fighting Vehicles were equally effective, often able to use TOW missiles to engage targets at ranges of 2500-3500 meters. The result was that U.S. ground maneuver forces were able to identify, engage and destroy Iraqi armored vehicles before the enemy even realized they were there. However, the ground offensive also revealed weaknesses in the situational awareness of the maneuver forces, in tactical communications capabilities and in the ability of support forces to keep up with the advance.

As the Army modernizes toward Force XXI, the lessons of Desert Storm and other more recent operations are being applied. The emphasis is on a force that will be small, fast, integrated, fully aware of its surroundings and extremely lethal. As the systems for that force become available, the Army will use AWEs to test doctrinal concepts for the employment of those systems and to see what the implications of those systems are.

Army Weapon Systems and the National Military Strategy

The systems listed in this book are not isolated, individual products. Rather they are building blocks needed to create the integrated capabilities that the Army will need to fulfill its role in the National Military Strategy. Each system in this book is listed according to the Army Modernization Objective that it primarily supports. The systems are listed according to the capabilities they enhance the most. On each system page are icons showing which other Modernization Capabilities that system supports. As you, the reader, examine these systems, remember that each Modernization icon represents a set of future capabilities that tomorrow's Army must realize for it to remain the dominant military force in the world.

"I believe that a stable, long-term investment in modernization is the key to future readiness; today's modernization is tomorrow's readiness."

Gilbert F. Decker
Assistant Secretary of the Army for Research, Development & Acquisition

The systems in this book, like the capabilities in the Army Modernization Plan, are part of an integrated approach to make the Army of the future capable of meeting the increased demands of our nation with fewer resources. Each system and each capability has an important role to play in making modernization a reality. Each system and each capability will contribute towards the Army's ability to respond to our nation's needs. The systems in this book are today's investment to ensure the future readiness of our Army. The Army of tomorrow will rely on these systems to successfully perform all assigned missions.

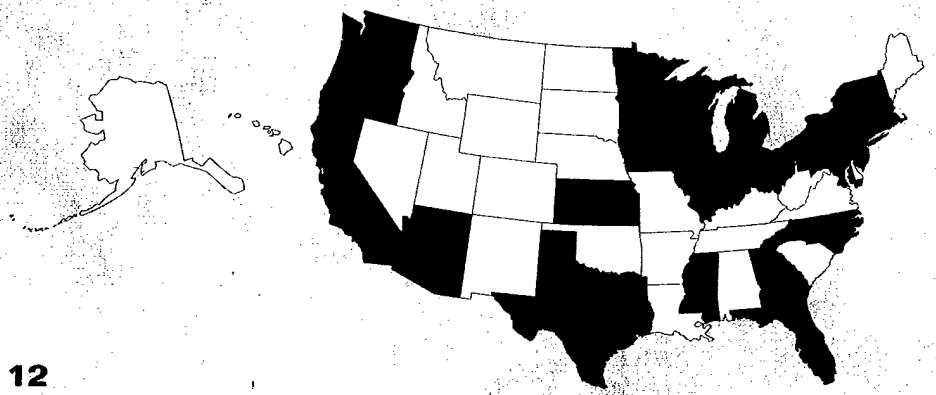
The Army of tomorrow will be a smaller, continental U.S. (CONUS) based force that will require a greater ability to project and sustain its power anywhere in the world. To realize that objective, Army systems need to be light, lethal and modular, so that it can project more capabilities with fewer resources. The Army also needs to have sufficient strategic and tactical lift assets to move its forces around the globe. Finally, the Army must project itself efficiently by taking advantage of new technologies to move only what is absolutely necessary. Improved logistical information systems and a new emphasis on split based operations will allow the Army to fully sustain its forces while projecting fewer support elements.

Major Regional Contingencies (MRCs) and crisis response operations are the most demanding scenarios for project and sustain, because they require rapid movement of large numbers of assets. Systems and approaches that support these intensive operations will also support other missions such as humanitarian relief and peacekeeping. In any crisis, the Army will need highly lethal early entry forces that can help secure entry points into a theater. Such forces need to be light, modular and rapidly transportable, but they also need improved defense and logistics assets that will permit them to hold the entry points. One example in this area is the Force Projection Tactical Operations Center (FP TOC), which will give the early entry commander an improved ability to manage the Theater Missile Defense (TMD) fight during the build-up phase.

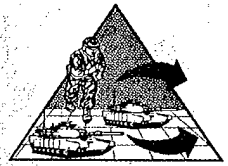
Once the entry points are secure, the Army needs to be able to move heavier forces and supporting logistics forces into the theater quickly. This rapid build-up phase relies on the availability of large transport aircraft and large roll-on/roll-off ships to move the necessary equipment and supplies to the theater. The USAF C-17 and the USN Large Medium Speed Roll-On/Roll-Off (LMSR) ships are the critical programs for this capability. The build-up phase also depends on basic items like rail cars to get armored vehicles to their ships and the Family of Medium Tactical Vehicles (FMTV) to move the armored vehicles around the theater of war. There is also a role for advanced technology programs like the total distribution program, which will allow the Army to track items through every phase of transport, as commercial shippers can.

As Army forces build up in a theater, those forces require more than just a constant flow of supplies. The Army needs compact lightweight support systems that can move the supplies and meet other needs, be they medical, recreational or logistical. Systems like Force Provider and the Family of Operational Rations enhance the quality of life for soldiers in forward areas. Deployable Medical Systems (DEPMEDS) and Telemedicine will greatly improve the medical care available to soldiers in forward areas. The Improved Family of Test Equipment will improve the reliability and combat availability of systems in the theater. Project & Sustain means ensuring that the Army can get to where it has to fight with equipment and supplies it need to get the job done.

SCIENCE AND TECHNOLOGY	CONCEP	DEM/ VAL	EMD	PRODUCTION AND DEPLOYMENT	OPERATIONS AND SUPPORT
Advanced Airdrop for Land Combat ATD	Combat Service Support Control System (CSSCS)	Deployable Medical Systems (DEPMEDS)	Black Hawk		
Total Distribution ATD	Force Provider (FP)	Family of Medium Tactical Vehicles (FMTV)	High Mobility Multipurpose Wheeled Vehicle (HMMVWV)		
Integrated High Performance Turbine Engine Technology (IHPTET)		Force Projection Tactical Operations Center (FP TOC)	Integrated Family of Test Equipment (IFTE)		
Family of Operational Rations (FOR)		Heavy Equipment Transporter System (HRTS)	Palletized Load System (PLS)		
Intellegent Vehicles		Tactical Quiet Generators (TQG)	Rail Cars		



Project & Sustain



Dominate The Maneuver Battle

MISSION: The Black Hawk provides utility and assault helicopter capability.

CHARACTERISTICS: The Black Hawk (UH-60) is a light transport helicopter that performs many missions in the Army. The Black Hawk is the primary helicopter for air assault, general support, and aeromedical evacuation units. Modified Black Hawks also fulfill command and control, electronic warfare, and special operations roles. The Black Hawk has enhanced the overall mobility of the Army because of its dramatic improvements in troop capacity and cargo lift capability compared to the UH-1 "Huey" it replaces. Now, an entire 11-man, fully equipped infantry squad can be lifted in one Black Hawk, and the troops can be transported faster and in most weather conditions. The Black Hawk also is the first utility and assault helicopter that adds to the Army's Division-level mobility; for example, it can reposition a 105mm howitzer, its crew of six, and up to 30 rounds of ammunition in a single lift. The aircraft's critical components and systems are armored or redundant to enable it to withstand multiple small arms hits, and its airframe is designed to progressively crush on impact to protect the crew and passengers in a crash. Ease of maintenance in the field was designed into the Black Hawk from the beginning.

	UH-60A	UH-60L
Max gross weight:	20,250 lb	22,000 lb
Cruise speed:	139 kt	150 kt
Endurance:	2.3 hr	2.1 hr
Max range:	320 nm	306 nm
Crew:	2 pilots, 1 crew chief	2 pilots, 1 crew chief
Armament:	two 7.62 mm machine guns	two 7.62 mm machine guns
Payload:	2,640 lb (or 11 combat equipped troops)	2,640 lb (or 11 combat-equipped troops)
External load:	8,000 lb	9,000 lb

FOREIGN COUNTERPART:

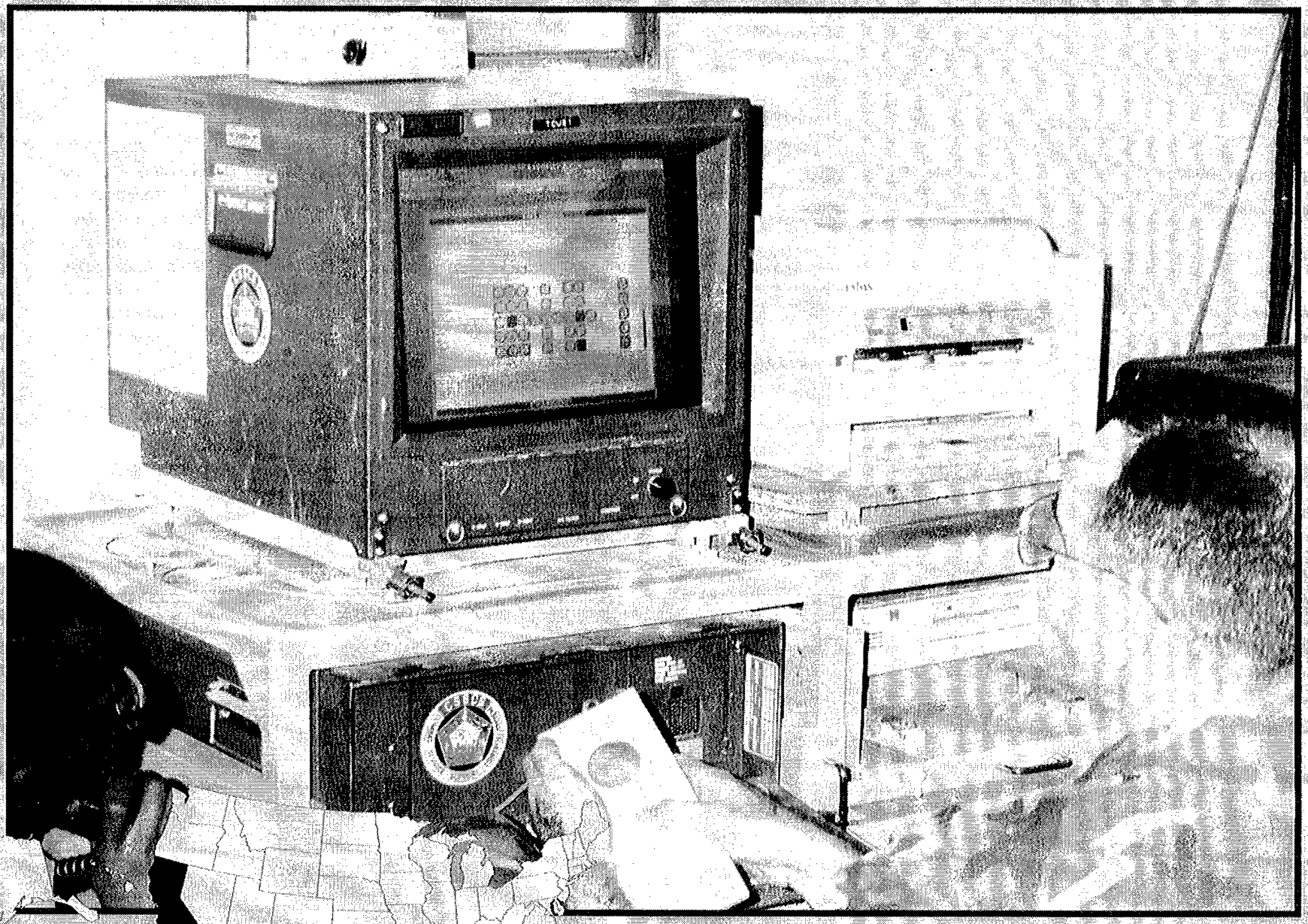
Russia:	HIP series aircraft
United Kingdom:	Lynx; EH-101
French:	Puma; NH90.

PROGRAM STATUS: The Army began fielding the UH-60 in 1978. Between 1978 and 1989 the Army procured UH-60A model aircraft. In October 1989, the propulsion system was upgraded, resulting in a model designation change from UH-60A to UH-60L. As of the end of FY95, the Army has procured 410 UH-60L models for a total UH-60 buy of 1390 aircraft. The Army currently is in the fifth year of a five-year, multi-year procurement contract calling for the delivery of 60 Aircraft per year.

PROJECTED ACTIVITIES: Delivery of 5 aircraft per month in accordance with the multi-year procurement contract. Continued refurbishment and standardization of pre-1989 UH-60A models to bring those airframes to the most up to date A model configuration. UH-60Q MEDEVAC kit qualification is in progress and is to be completed in FY97.

PRIME CONTRACTOR: United Technologies Corp., (Sikorsky Aircraft) (Stratford, CT)
General Electric (Lynn, MA)

* See appendix for list of subcontractors.



Project & Sustain

Win Information War

MISSION: The CSSCS will provide timely situational awareness and force projection information to determine capability to support current operations and sustain future operations. The CSSCS will rapidly collect, store, analyze, and disseminate critical logistics, medical, financial and personnel information.

CHARACTERISTICS: The CSSCS is a computer software system designed to assist commanders and their staffs in planning and executing logistics operations. CSS commanders and their staffs currently are participating in the force-level planning and decision making processes through a manual effort of gathering, correlating, and analyzing volumes of technical data from the existing Standard Army Management Information Systems (STAMIS). The CSSCS can extract summary information from the CSS STAMIS, accept input from other elements of the CSS community, and exchange information with other automated systems to evaluate CSS information with respect to the force-level commander's tactical courses of action. The CSSCS is the service support component of the Army Battle Command System (ABCS). The CSSCS will be organic to CSS units and headquarters staffs within the maneuver brigades, separate brigades, armored cavalry regiments, Divisions, Corps, and Echelons Above Corps. The CSSCS will comprise transportable and lightweight computer units (TCUs and LCUs) procured through the Project Manager (PM)—Common Hardware/Software (CHS), Common Operating Environment (COE), and CSSCS—unique software. The CSSCS will be housed in the family of Standardized Integrated Command Post Systems (SICPS) provided by PM CHS.

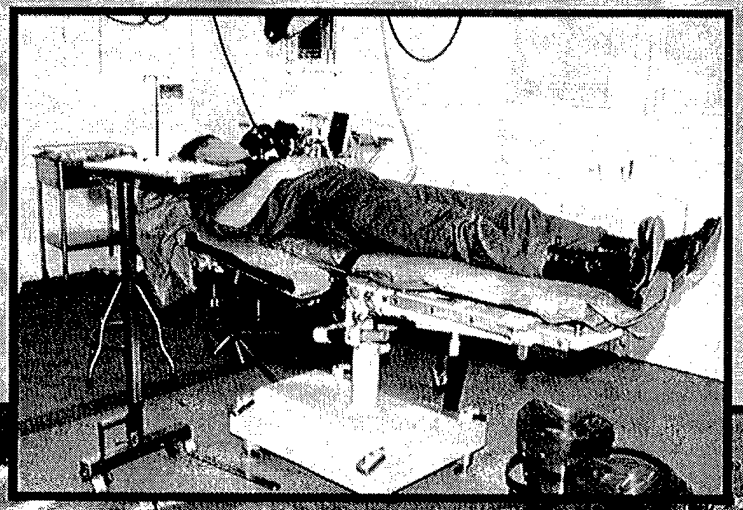
FOREIGN COUNTERPART: Great Britain, Canada, and Australia are monitoring the status of CSSCS development.

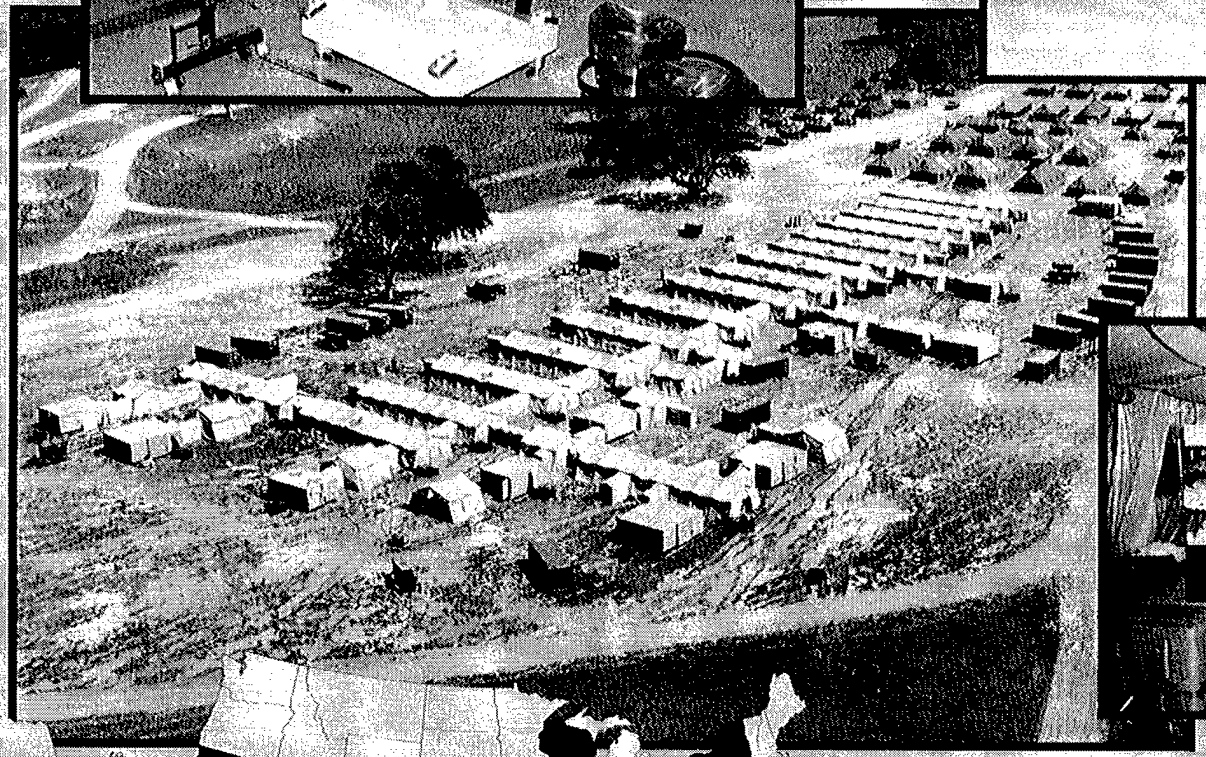
PROGRAM STATUS: The CSSCS is currently in the Engineering and Manufacturing Development phase. Program development has been structured to evolve over five versions. Version 1 was the subject of an experiment during 1QFY89, which baselined initial capabilities and the processing architecture. Version 2 established automated interfaces with selected CSS STAMIS and the Maneuver Control System (MCS), and provided initial Division-level CSS functional applications software on CHS. Version 2 was completed in January 1991. In February 1991, TRW was awarded the software development contract for Versions 3 and 4. Version 3 began fielding in March 1995, and will provide the Army with an integrated ATCCS capability.

PROJECTED ACTIVITIES: Improvements and added capabilities for all echelons will continue in Versions 4 and 5.
Complete and test Version 4 FY96.
Complete and test Version 5 FY99.

PRIME CONTRACTOR: TRW Inc. (Carson, CA)

* See appendix for list of subcontractors.





Project & Sustain

Deployable Medical Systems (DEPMEDS)

MISSION: The DEPMEDS family provides deployable hospitals with standard medical care equipment.

CHARACTERISTICS: The DEPMEDS family is composed of medical equipment packaged into standardized modules for use by all Services. There are four types of deployable Army hospitals under the Army's Medical Force 2000 reorganization: forward-deployed Mobile Army Surgical Hospitals, Combat Support Hospitals, Field Hospitals, and General Hospitals. Each will comprise different configurations of standard DEPMEDS modules, such as operating rooms, laboratories, x-ray units, and wards. The DEPMEDS hospital sets standardize the use throughout the Army and DoD of the latest medical technology and equipment, expendable supplies, major nonmedical support equipment power units, Tent Extendible Modular Personnel Tents, tactical shelters, heating, and air conditioning. Standard modules improve medical operability and patient distribution. The hospital sets can be deployed under all climatic conditions. Fielding the 88 Army hospital sets will eliminate serious shortages of field medical equipment and achieve major advances in equipping the Total Army. Gaining units will receive their DEPMEDS equipment in one package under the Total Package Fielding concept. This is the largest Total Package Fielding effort ever undertaken by the Army Medical Department.

System characteristics vary by type of hospital set. All provide adequate but austere care, are maintainable and relocatable, have modular configuration and quad-service compatibility, and are transportable by strategic air.

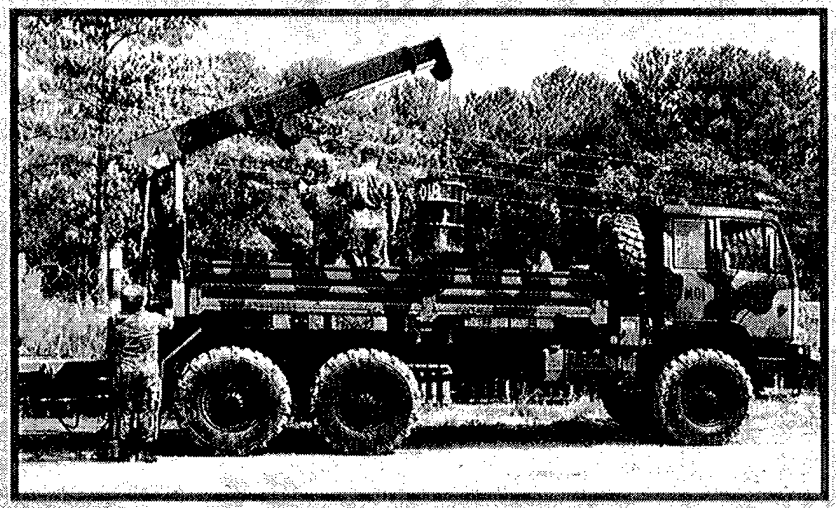
FOREIGN COUNTERPART: No known foreign counterpart.

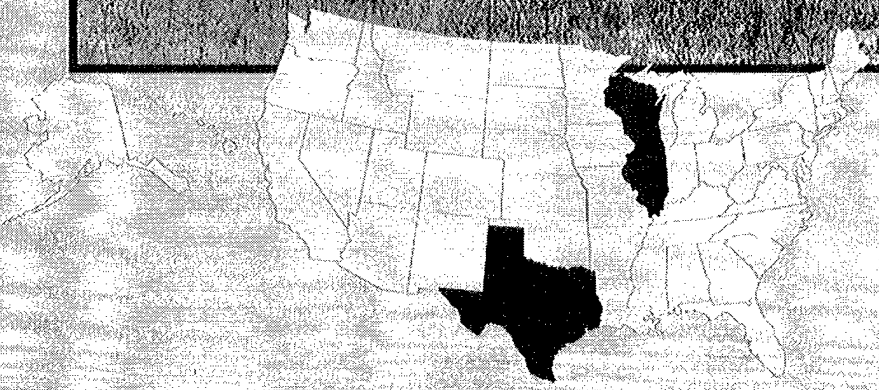
PROGRAM STATUS: The DoD Medical Standardization Board ensures compatibility among the Services. Fielding began in 4QFY87. As of September 1995, 66 hospitals have been fielded and 96 minimum essential equipment sets have been fielded.

PROJECTED ACTIVITIES: During FY96 the systems will be modernized in keeping with upgraded and changing medical technology.

PRIME CONTRACTOR: A large number of contractors are involved in providing the 3,400-plus medical and non-medical components of DEPMEDS. These components are assembled into modules and hospital sets by the Defense Logistics Agency, Defense Depot, Ogden, UT.

* See appendix for list of subcontractors.





Project & Sustain

MISSION: The FMTV will fill the Army's medium tactical wheeled vehicle requirements.

CHARACTERISTICS: The FMTV consists of a common truck chassis that is used for several vehicle configurations in two payload classes. The Light Medium Tactical Vehicle (LMTV) is available in van and cargo variants and has a 21/2-ton payload capacity. The Medium Tactical Vehicle (MTV) has a 5-ton payload capacity and consists of the following models: cargo with and without materiel-handling equipment, tractor, wrecker, and dump truck. Van and tanker variants of the MTV will be developed concurrent with the production of other models. The FMTV will perform line haul, local haul, unit mobility, unit resupply and other missions in combat, combat support, and combat service support units. Vehicles will operate worldwide on primary and secondary roads and trails. The FMTV will replace overaged and maintenance-intensive trucks currently in the fleet.

	LMTV Cargo	MTV Cargo
Payload:	5,000 lb	10,000 lb
Towed load:	7,500 lb	21,000 lb
Engine:	Diesel	Diesel
Transmission:	Automatic	Automatic
Horsepower:	225	290
Drive:	4x4	6x6

FOREIGN COUNTERPARTS:

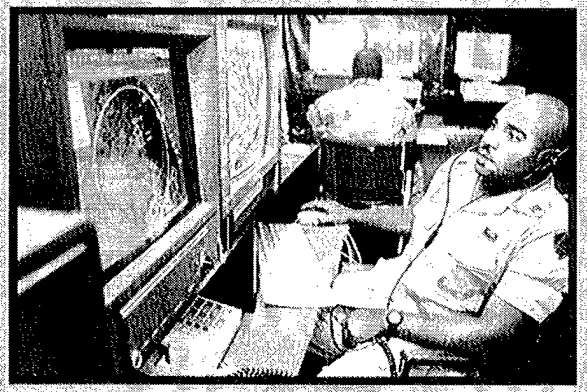
	LMTV	MTV
Russia:	ZIL-131; GAZ-66	URAL-375; 6A2 9301; KAW 4430 (same as 5-ton)
Italy:	Fiat 75PM	Fiat 6602
Germany:	Unimog U11OOL	Mercedes 1017A, MAN 5-ton
France:	RVI Saviem TRM-2000	RVI Saviem TRM-4000
Spain:	Santana 2000	Peguso 3050
Austria:	Steyr 630M3	Steyr 1291M

PROGRAM STATUS: Initial Operational Testing and Evaluation (IOTE) was completed in June 1995. The Army conducted an Army Systems Acquisition Review Council (ASARC) in August 1995. The Acquisition Decision Memorandum was signed on 29 August 1995. The DOTE "Beyond LRIP" Report was released to Congress on 18 August 1995. The production contractor will proceed to full rate production in FY96.

PROJECTED ACTIVITIES: Fielding continues to the Army's highest priority "first to fight" units.

PRIME CONTRACTOR: Stewart and Stevenson Services (Houston, TX)

* See appendix for list of subcontractors.



Project & Sustain

Force Projection Tactical Operations Center (FP TOC)

MISSION: The Force Projection Tactical Operations Center (FP TOC) provides the Land Component Commander early entry capability for command and control of the Theater Ballistic Missile (TBM) fight. The FP TOC also serves as the focal point for prosecution of the TBM fight as the theater matures,

CHARACTERISTICS: The FP TOC consists of four High Mobility Multi-Purpose Wheeled Vehicles (HMMWVs) with Standard Integrated Command Post System (SICPS) shelters, connected by six tents, to form a self-contained command element. The FP TOC uses 13 fielded and/or developmental Army and Joint command, control, and communication systems to integrate all elements of TMD. Attack Operations provides timely attack of the TBM or cruise missile infrastructure (launchers, storage areas, staging areas, reload facilities and C4I elements). Active Defense plans, conducts, and monitors engagement of in-flight and cruise missile threats. Passive Defense provides timely alert to U.S. and allied forces of the predicted impact of a TBM threat.

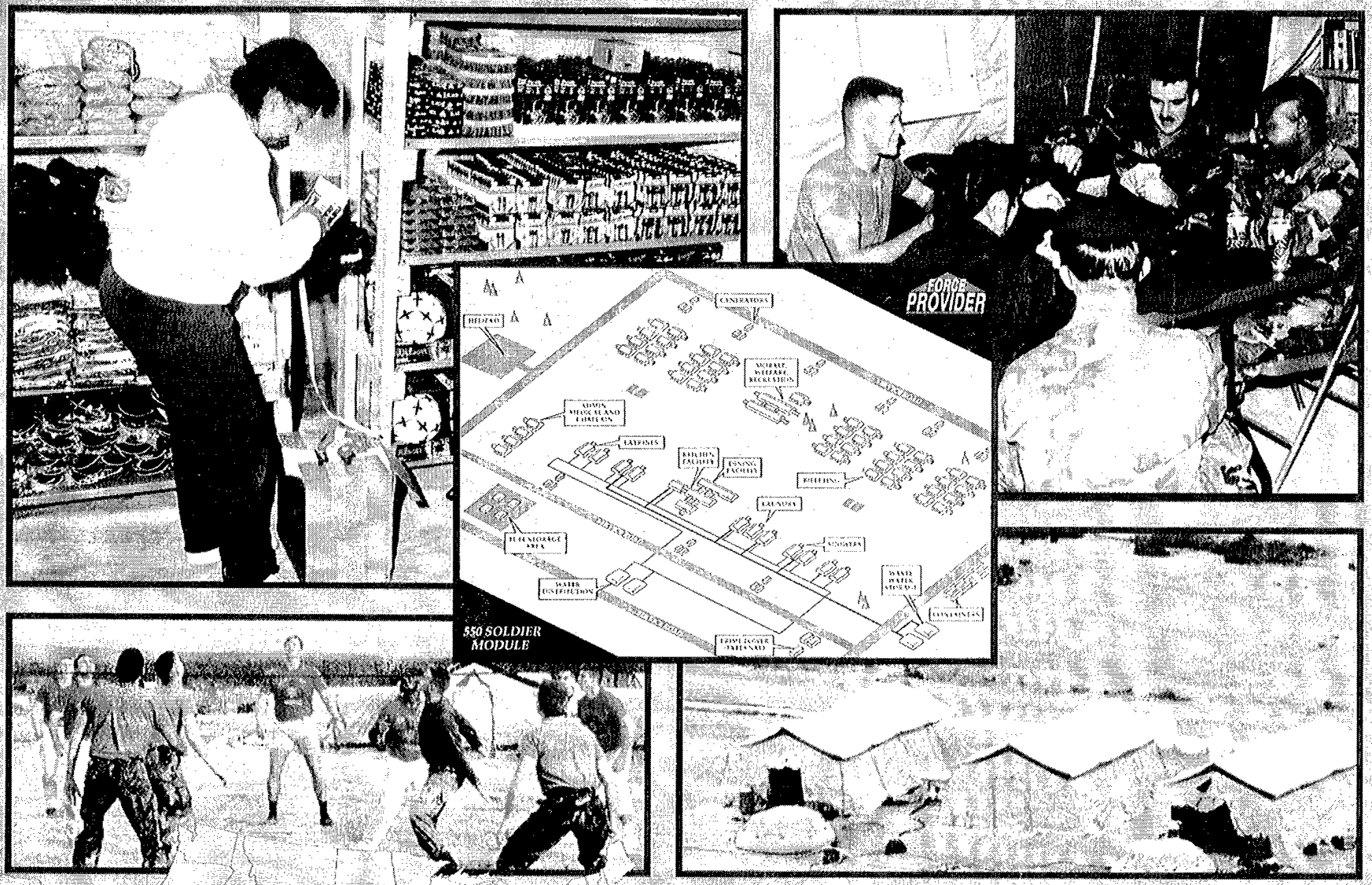
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The FP TOC was fielded to the Army on 13 February 1995. It participated in Roving Sands 95 and the TMD Army Warfighting Experiment (AWE) in May 1995. In September 1995 experiments at Hanscom AFB, the FP TOC demonstrated interoperability with the USAF Combat Integration Capability. The FP TOC participated in Exercise Bright Star in November 1995. In February 1996, the FP TOC will be upgraded to Phase II. The upgrade adds a new communications vehicle to consolidate voice communications; adds new workstations and upgrades existing workstations; replaces CHS I equipment with CHS II; and provides a distributed computing environment and a standardized message format.

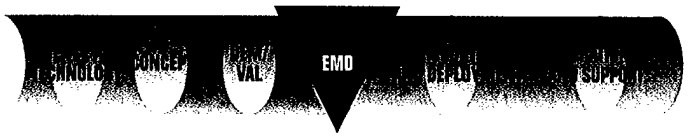
PROJECTED ACTIVITIES: FP TOC Phase II upgrade
Participate in Roving Sands 96/Optic Cobra

PRIME CONTRACTOR: TRW Inc. (Huntsville, AL)

* See appendix for list of subcontractors.



Project & Sustain



MISSION: The FP will provide high quality of life rest and refit facilities for combat soldiers in theater of operations with limited or no supporting infrastructure.

CHARACTERISTICS: The FP will provide a tent-based system with selected containerized components to provide climate controlled billeting, feeding, hygiene services, and morale and welfare activities. The FP is a Non-Developmental Item integration effort, and the components will consist of existing DoD equipment to the maximum extent possible. Equipment for this system will include tent-based billeting and dining facilities, showers, containerized latrines, and laundries. FP also includes power generation and distribution equipment; morale, welfare, and recreation equipment; area lighting; water and fuel storage and distribution; and waste water storage. Additionally, the FP will provide a capability for theater of operations reception missions, reconstitution missions, humanitarian aid missions, and disaster relief missions. It is packaged for ease of deployability by all modes of transportation.

FOREIGN COUNTERPART: Germany: Field Lager System Concept

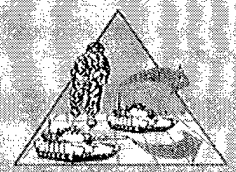
PROGRAM STATUS: FP was type classified standard on 12 May 1994.
Award major end item contracts (November 1994 to December 1995)
Procure secondary items (November 1994 to November 1995)

PROJECTED ACTIVITIES: Major item contract deliveries (May 1995 to November 1996)
System integration and assembly (March 1995 to December 1996)
Deliver 2 modules (30 December 1996)

PRIME CONTRACTOR: Production Assembly by Sierra Army Depot with system integration by the Force Provider Program Management Office.

* See appendix for list of subcontractors.

Project & Sustain



Dominate The Maneuver Battle

MISSION: The HETS will transport, deploy, and evacuate a combat-loaded M1 series tank or other vehicles of similar weight.

CHARACTERISTICS: The HETS consists of the M1070 truck tractor and M1000 semitrailer (70 ton). They are being procured under separate acquisition programs. The new HETS will transport 70-ton payloads, primarily M1 series tanks. It operates on OCONUS highways, on CONUS highways with permits, secondary roads, and cross country. The HETS has a number of features that significantly improve the mobility and overall performance of the system in a tactical environment. The M1070 tractor has front-and rear-axle steering, a central tire inflation system, and cab space for six personnel to accommodate the two HETS operators and four tank crewmen. The M1000 semitrailer has automatically steerable axles and a load-leveling hydraulic suspension.

Speed:	40-45 mph (with 70-ton payload, 25-30 mph)
Range:	300 mi
Transport:	C-5 aircraft
Mobility:	95% on road; 5% off road
RAM:	3,000 mean miles between hardware mission failure for both tractor and trailer

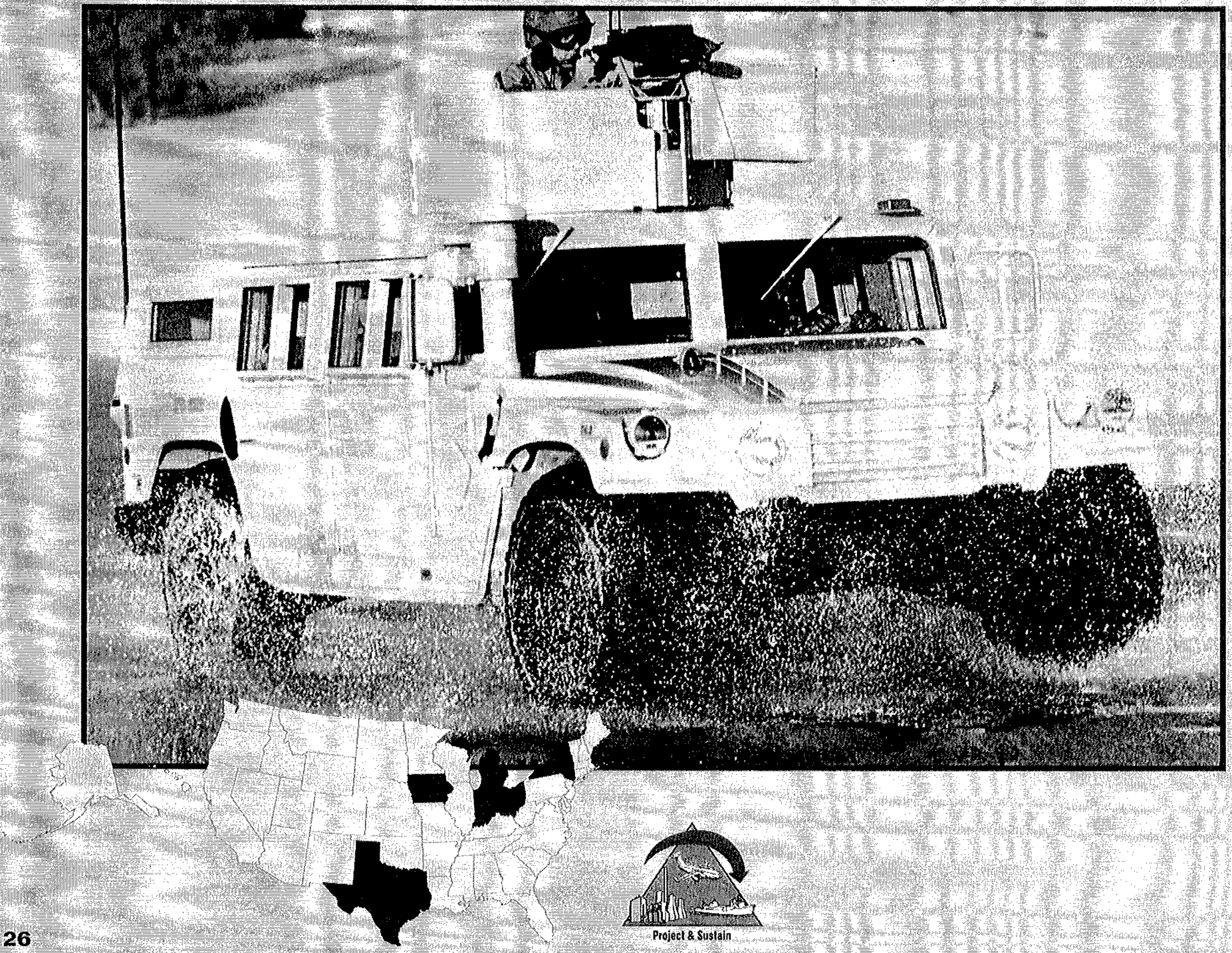
FOREIGN COUNTERPART:

Russia:	TATRA-813 (tractor)/ChMZAP-5212 (trailer)
France:	TRH 350

PROGRAM STATUS: The HETS is being procured as a Non-Developmental Item (NDI) and is approved for full rate production. Oshkosh Truck Corporation is producing the tractor. The trailer is being produced by Southwest Mobile Systems. First Unit Equipped (FUE) occurred on 3 June 1994 with the 27th Maintenance Support Battalion (MSB) at Ft. Hood, Texas. HETS fielding will continue through FY96.

PROJECTED ACTIVITIES: Fielding through FY96. Procurement of an additional 200 systems in FY97.

PRIME CONTRACTOR: Oshkosh Truck (Oshkosh, WI)—Tractor
Southwest Mobile Systems (St. Louis, MO)—Trailer



Project & Sustain

MISSION: The HMMWV provides a common light tactical vehicle capability.

CHARACTERISTICS: The HMMWV is a light, highly mobile, diesel-powered, four-wheel drive vehicle that uses a common 4,400 lbs payload chassis. The HMMWV can be configured through the use of common components and kits to become a troop carrier, armament carrier, S250 shelter carrier, ambulance, TOW missile carrier and a Scout vehicle. The 4,400 lbs variant was developed as the prime mover for the light howitzer, towed VULCAN system, and heavier shelter carriers. It is a Tri-Service program that also provides vehicles to satisfy Marine and Air Force requirements. The HMMWV program is complementary to the Commercial Utility Cargo Vehicle. The HMMWV replaced the 1/4 ton Jeep, the M718A1 Ambulance, 1/2 ton Mule, 1 1/4 Gamma Goat, and M792 Ambulance.

Since its inception the HMMWV has undergone numerous design and configuration updates and changes. These changes have included technological, environmental, operational and safety improvements such as higher payload capability, radial tires, 1994 EPA emissions update, commercial bucket seats, three-point seat belts, four speed transmissions and, in some cases, turbo charged engines, air conditioning and Central Tire Inflation Systems (CTIS). In response to peace keeping missions, an Up-armored HMMWV was developed that provided increased ballistic and blast protection primarily for the Military Police (MP). In addition, the Project Manager (PM) developed a Scout HMMWV which is configured with a night vision device, a Global Positioning System, gun mounts and SINCGARS radios.

In 1995, the PM introduced the A2 configuration and the Expanded Capacity Vehicle (ECV) HMMWV. The A2 incorporates the four speed, electronic transmission, the 6.5 liter diesel engine and improvements in transportability. The A2 serves as a platform for other Army systems such as the Ground Based Common Sensor. The ECV vehicle also went into production in 1995. The payload of this vehicle will approach 5000 lbs. Its primary mission is that of an Up-armored vehicle for the Scouts and the MP. Also, this vehicle will serve as a platform for mission payloads and systems that exceed 4,400 lbs.

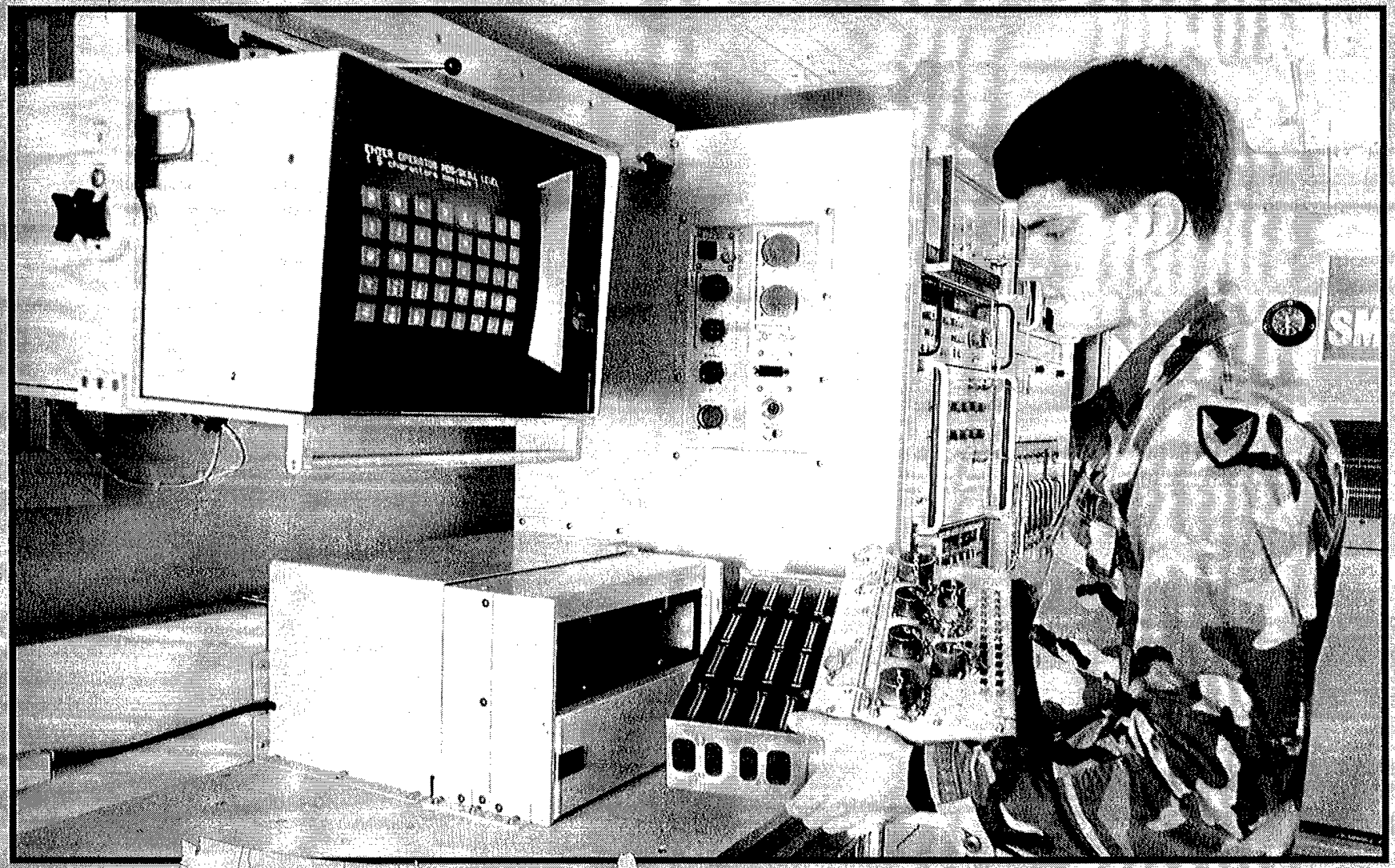
FOREIGN COUNTERPART: Certain models of the HMMWV have counterparts such as the Swiss MOWAG, the French PANHARD and the German UNIMOG.

PROGRAM STATUS: Continued production on the requirements contract.

PROJECTED ACTIVITIES: Continued fielding as a platform in support of MP, Scouts and other Army systems.

PRIME CONTRACTOR: AM General (South Bend, IN)

* See appendix for list of subcontractors.



Project & Sustain

MISSION: The IFTE provides the capability to isolate electronic faults in weapon systems.

CHARACTERISTICS: The IFTE is a modular Test, Measurement, and Diagnostic Equipment (TMDE) system that consists of four interrelated systems to provide generic automatic test equipment (ATE) capability through all levels of maintenance. It allows the isolation of weapon systems faults to the electronic Line Replaceable Unit (LRU) at the Direct Support (DS) level, both on and off system. This supports rapid return to the battlefield. At General Support (GS) and Depot, IFTE further diagnoses an LRU to the Shop Replaceable Unit (SRU).

Two tactical systems, the AN/PSM-80, or Contact Test Set (CTS), and the AN/TSM-191, or Base Shop Test Facility (BSTF), provide on- and off-system support, respectively. The CTS also is the host for Electronic Technical Manuals (ETMs). Electro-Optical (EO) test capability for the CTS and BSTF is in development. The CTS is man-portable and augments supported systems Built-in-Test/Built-in-Test-Equipment (BIT/BITE) to isolate weapon systems failure to the bad LRU. The BSTF consists of the AN/USM-632 Base Shop Test Station (BSTS) in an S-280 shelter mounted on a 5-ton truck. A second shelter and truck store Test Program Sets (TPSs). TPS are the weapon systems-specific software that ATE uses to diagnose faults in major items or components. A 60 kW generator powers the BSTF. Base Shops will serve at both DS and GS. The two non-tactical systems are the Automatic Test Program Set Support Environment (ATSE) and the Commercial Equivalent Equipment (CEE). The ATSE is the software tool used to develop a BSTF/CEE TPS. The CEE is a nonruggedized equivalent of the BSTF, designed for completion of TPS development and to support requirements at depots, contractor facilities, and Special Repair Activities.

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The IFTE BSTF Full-Scale Production (FSP) decision took place in March 1992. Improvements identified at Initial Operational Test and Evaluation are being retrofitted to all BSTFs. First Unit Equipped (FUE) for the BSTF occurred in December 1992. FUE for the CTS occurred in September 1994.

PROJECTED ACTIVITIES: The BSTF and the CTS will continue to be produced and fielded in FY96. The contract for the next generation CTS, the Soldier Portable On-system Repair Tool (SPORT), will be competed in FY96 with contract award expected in the third quarter.

PRIME CONTRACTOR: BSTF: Northrop-Grumman Corp. (Great River, NY)
CTS: SAIC (San Diego, CA)

* See appendix for list of subcontractors.

Project & Sustain

MISSION: The PLS is being deployed as the primary component of the maneuver-oriented ammunition distribution system (MOADS). It will perform line haul, local haul, unit resupply and other missions in the tactical environment to support modernized and highly mobile combat units.

CHARACTERISTICS: The PLS consists of a 16 1/2-ton payload prime mover (10x10) with an integral load-handling system, which provides self-loading and unloading capability; a 16 1/2-ton payload trailer; and demountable cargo beds, referred to as flatracks. The PLS truck is equipped with the central tire inflation system (CTIS), which significantly improves off-road mobility. PLS also will allow interoperability with the comparable British, German, and French systems, through the use of a common flatrack, as specified in the current quadripartite agreement. On the basis of direction provided by Congress in the FY 90 Defense Appropriation Bill, an intermodal flatrack (with features that enhance transportability and stacking) has been designed and will go into production later this year. A container lift kit (CLK) also will be fielded to PLS trucks assigned to transportation and ammunition units and to forward support battalions. This provides PLS the capability to pick up and transport 20 ft ISO containers without using a flatrack. The self-propelled field artillery units will receive PLS trucks equipped with a materiel-handling crane to deal with individual pallets of ammunition.

Truck payload:	16 1/2 ton
Trailer payload:	16 1/2 ton
Flatrack dimensions:	8x20 ft
Engine type:	Diesel
Transmission:	Automatic
Number of driven wheels:	10
Range, integral fuel at gross combined weight:	255 mi

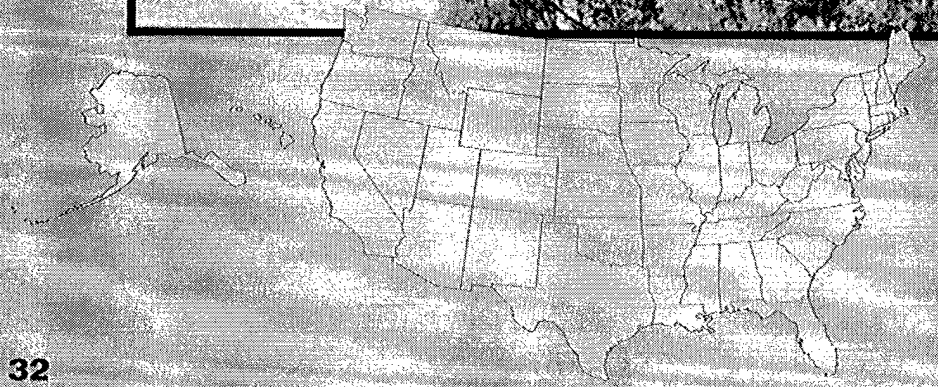
FOREIGN COUNTERPART: United Kingdom: Demountable Rack Off-Loading and Pick-Up System

PROGRAM STATUS: The PLS is a nondevelopmental item (NDI) program which has been executed through a five-year multi-year production contract awarded to Oshkosh Truck Corporation (OTC) in September 1990. It entered low rate production in 1991 and was approved to enter full production in April 1993. The PLS First Unit Equipped (FUE) occurred in February 1994 with units from the 1st Cavalry Division at Ft. Hood, TX. PLS fielding will continue through FY97.

PROJECTED ACTIVITIES: TRADOC is currently performing an analysis of follow-on uses for the PLS. The study explores the benefits of using PLS for the following missions: Corps distribution of other classes of supply, DEPMEDS Hospital and Medical Supplies, Aviation Intermediate Maintenance Units in Division/Corps, and Engineer Bridging. The PMO is currently developing tanker flatracks to transport water and fuel per Congressional direction and will soon begin the development of engineering application flatracks.

PRIME CONTRACTOR: Oshkosh Truck (Oshkosh, WI)

* See appendix for list of subcontractors.



Project & Sustain

MISSION: Move combat equipment for two brigades from the installation to the port of embarkation within 48 to 96 hours.

CHARACTERISTICS: Under the Mobility Requirements Study (MRS), flatcars are being pre-positioned at various government installations such as Ft. Stewart, Ft. Hood, and Ft. Benning.

68 ft, 150 ton capacity flatcar
68 ft, 100 ton capacity flatcar
89 ft, 100 ton capacity flatcar
89 ft, bi-level car
Trailer on flatcar (TOFC)

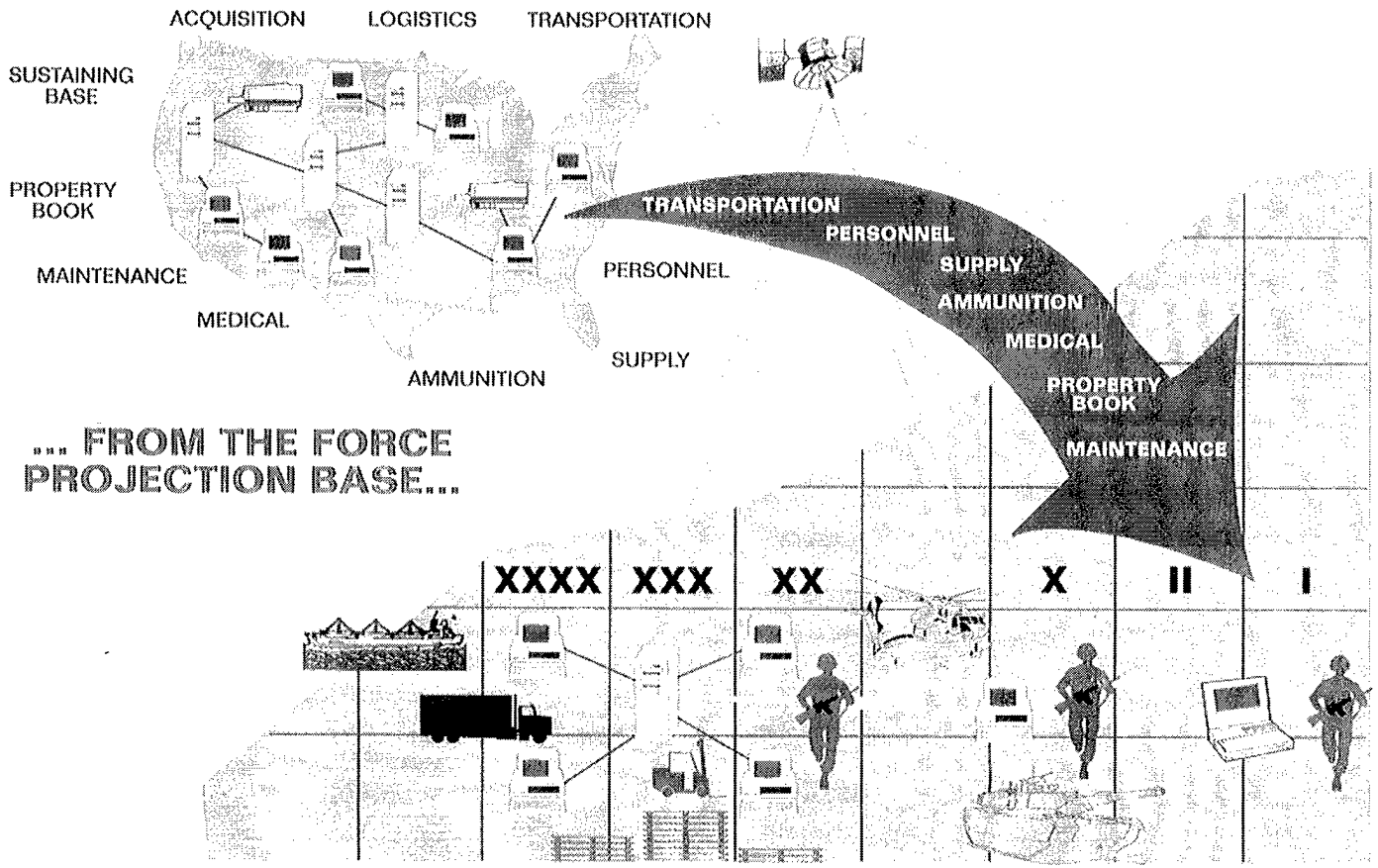
FOREIGN COUNTERPART: Many nations have a comparable rail capability.

PROGRAM STATUS: Ninety-three 68 ft, 100 ton capacity flatcars and ninety-four 89 ft, 100 ton capacity flatcars were acquired with FY 93 funds. The same quantities were acquired in FY94. In FY95 seventy 68 ft, 100 ton capacity flatcars and seventy 89 ft, 100 ton flatcars were purchased.

PROJECTED ACTIVITIES: During FY96 forty 68 ft, 100 ton capacity flatcars and seventy 89 ft, 100 ton capacity flatcars will be acquired

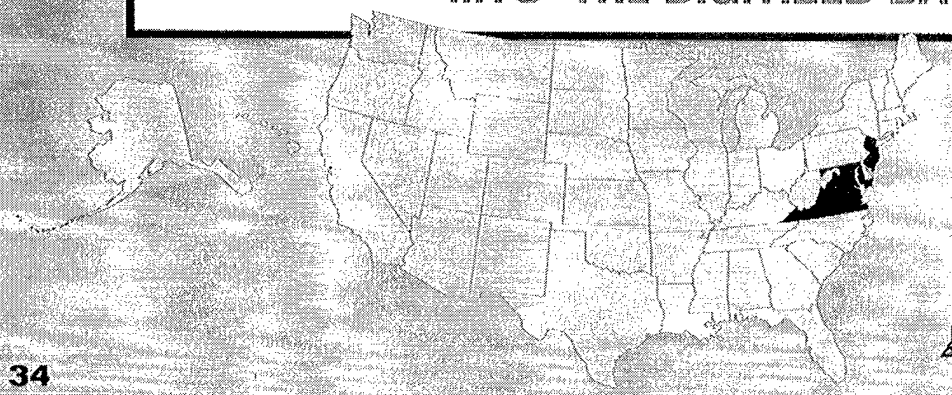
CONTRACTOR: AMF Technotransport, Inc. (Montreal, Canada)

WARFIGHTER SUPPORT...



... FROM THE FORCE PROJECTION BASE...

...TO THE DIGITIZED BATTLEFIELD



Project & Sustain

MISSION: To plan, design, develop, acquire, install, and maintain highly complex management information systems to support the warfighter from the force projection base to the battlefield.

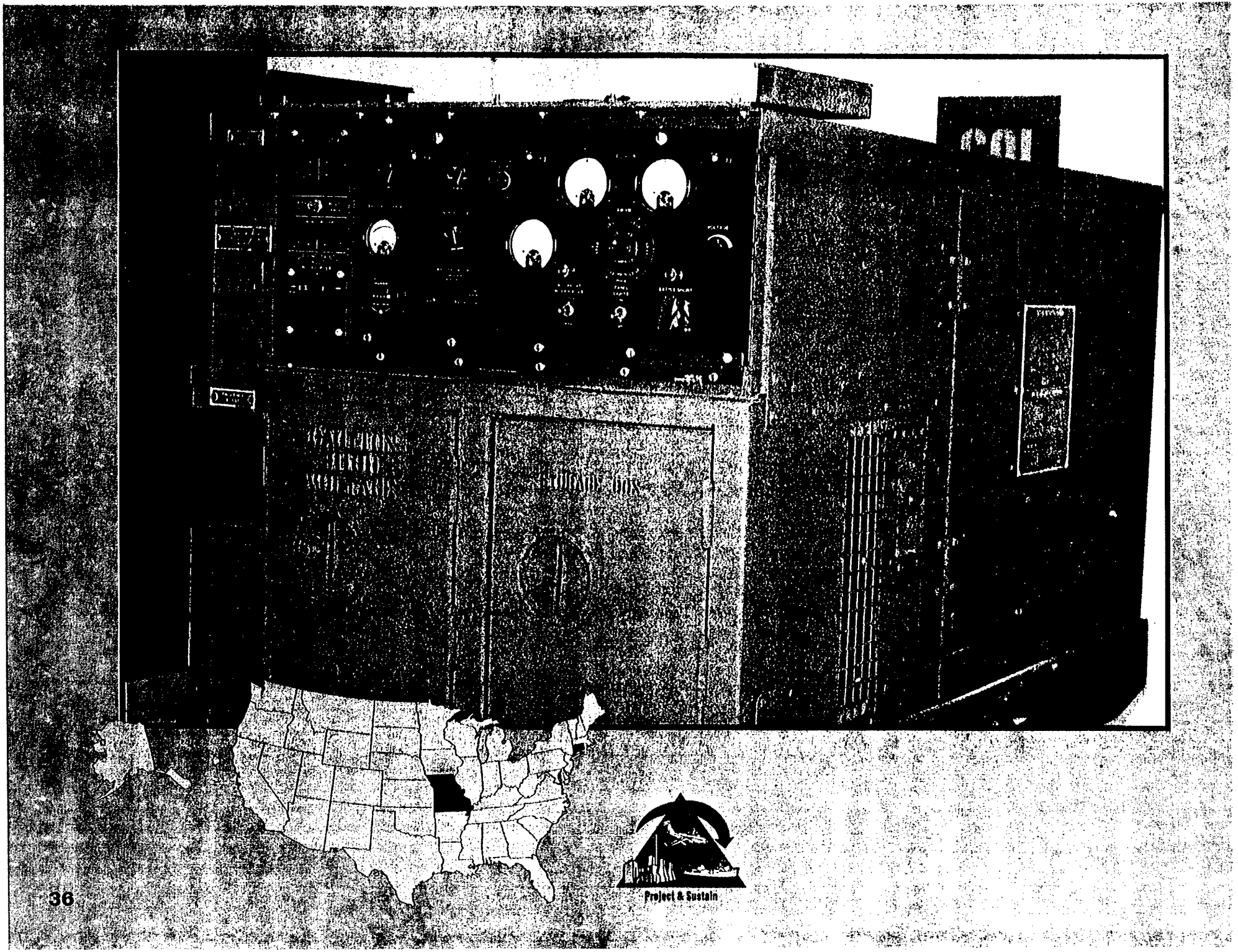
CHARACTERISTICS: The Standard Army Management Information Systems (STAMIS) program acquired by PEO STAMIS are diverse based on the size and variety of products (computer hardware and software systems) and the breadth of customers. Programs include: Standard Installation/Division Personnel System (SIDPERS); Joint Recruiting Information Support System (JRISS); Personnel Electronic Records Management Systems (PERMS); Joint Computer-aided Acquisition and Logistic Support (JCALS); Sustaining Base Information Services (SBIS); Acquisition Information Management (AIM); Theater Army Medical Management Information System (TAMMIS); Department of the Army Movements Management System (DAMMS); Objective Supply Capability (OSC); Standard Army Ammunition System (SAAS); Standard Army Maintenance System (SAAS); Standard Army Maintenance System (SAMS); Standard Army Retail Supply System (SARSS); Standard Property Book System (SPBS); and Unit Level Logistics Systems (ULLS). The span of STAMIS programs is Defense-wide and world-wide to provide the warfighter a modern power projection platform to support peacetime operations, training, mobilization, force projection, split-based operations and redeployment. As an integral part of the Army Enterprise Strategy, STAMIS programs acquire integrated systems using commercial technology that meets validated needs.

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The STAMIS programs are at various states of life cycle management. JCALS competitively awarded an A-109 contract in December 1991; SBIS competitively awarded an A-109 contract in June 1993. Commercial-Off-The-Shelf hardware, and software to the maximum extent possible are used by STAMIS programs. Other STAMIS programs use various Indefinite Delivery/Indefinite Quantity contracts and/or government software development centers. PERMS has completed fielding to the four Army records sites.

PROJECTED ACTIVITIES: SBIS: Initial Operational Test & Evaluation and Milestone II/III in FY96 to commence fielding of the initial software increment. JCALS: Initial Operational Test & Evaluation and Milestone III in FY96 to commence fielding to 269 DoD sites. SIDPERS: Milestone III in FY96 to commence fielding. JRISS and AIM institute prototyping and complete a Milestone I. The logistics programs will continue to develop, test and field improved capabilities.

CONTRACTOR:
SBIS: Loral (Loral Federal Systems) (Bethesda, MD)
JCALS: Computer Sciences Corp. (Moorestown, NJ)
PERMS: PRC, Inc. (McLean, VA)



MISSION: The TQG provide lightweight, less detectable, and more survivable electric power to units and equipment in a field environment.

CHARACTERISTICS: The TQG are the new DoD standard family of tactical electric power sources. The 5 kW-60 kW TQG provide DoD with "single fuel" sets that are more reliable, provide improved mobility (decreased weight), reduce noise and infrared (IR) signatures, are survivable in a nuclear environment, and provide quality electric power for command posts, C3I systems, weapon systems, logistics and maintenance functions, and other battlefield support equipment. The new power generators will limit a threat force's ability to locate critical targets through reduced aural and thermal signatures.

	Current Fleet Performance	TQG Requirements
Aural signature:	79-85 dBA @25 m	70 dBA @7 m
Fuel:	GAS/DSL/JP4	JP8/DSL
Hertz:	DC 50/60/400	DC 60, 50/60, 400
HAEMP:	No	Yes
IR suppressed:	No	Yes
Reliability (MTBOMF):	140-180 hr	500-600 hr
Standard voltage connections:	Yes	Yes
Slave receptacle:	Ordnance	NATO

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The first unit equipped for the 5-60kW was Ft. Bragg in December 1993. 5-60kW generators were fielded to Ft. Drum, Ft. Campbell, Ft. Benning, Ft. Bragg, and Aberdeen Proving Ground during FY94. During FY95, 5-60kW generators were fielded to Ft. Huachuca, Ft. Gordon, Ft. Lewis, Ft. Hood, Ft. Bliss, and Ft. Knox.

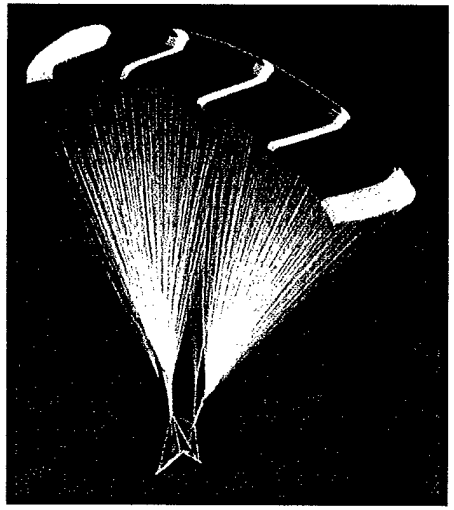
PROJECTED ACTIVITIES: Fielding of generators will continue through FY96.

PRIME CONTRACTORS:

Libby (Kansas City, MO)	5 through 60kW
Fermont (Bridgeport, CT)	5 through 60kW

ADVANCED AIRDROP FOR LAND COMBAT ADVANCED TECHNOLOGY DEMONSTRATION (ATD) (93 – 96):

This ATD will demonstrate the Guided Parafoil Air Delivery System, a high altitude offset aerial delivery system for combat-essential payloads, including combat vehicles weighing up to 21 tons (gross). The system will improve lethality and combat effectiveness of an early entry force by precisely delivering its payload to within 100 meters of the target, reducing drop zone requirements and minimizing the time required to assemble and establish an effective fighting force. This capability will greatly increase the survivability of the delivery aircraft in certain scenarios and thus increase the likelihood of mission success. The demonstration will leverage new technologies in the areas of ultra-large ram-air canopy design, staged-reefing and opening techniques; automated guidance and control of non-powered gliding decelerators; and automated soft or flared landings. Supports: Guided Parafoil Air Delivery Systems.



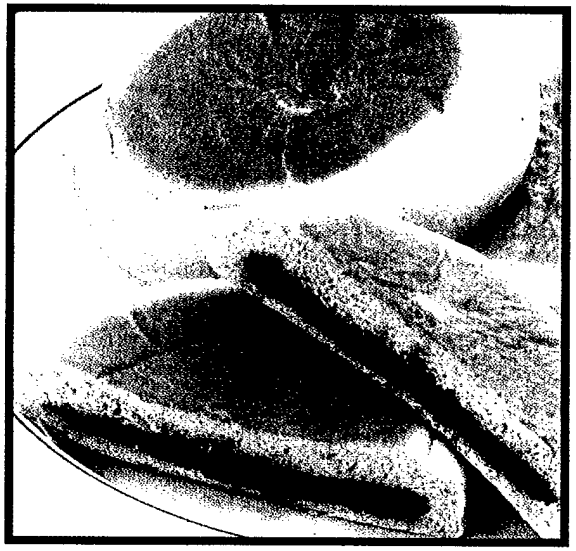
TOTAL DISTRIBUTION ATD (TDATD) (94 – 97:

The TDATD will demonstrate the integration of automated logistics planning tools, computer simulation and modeling techniques, advanced microelectronics, satellite tracking, and communications technology to significantly enhance total asset visibility by displaying the requirements and the location of assets at the strategic, operational, and tactical levels. The objective Total Distribution System (TDS) would support an enhancement to the Total Distribution Program capability to provide strategic, operational, and tactical commanders with automated logistics planning and visualization capabilities for force deployment, sustainment, and operational execution using artificial intelligence technology and Management Information System (MIS) databases. Potential Objective Supply Capability (OSC) upgrades, combined with space and terrestrial communications technology, will be linked to distributed, object-oriented Standard Army MIS (STAMIS) computers and logistics databases (i.e., transportation, ammunition, supply, and maintenance) to significantly reduce supply planning time and demonstrate a capability to analyze alternative courses of action prior to directing, rerouting, or redistributing assets. Potential capability enhancements as a result of the TDATD are expected to include reduced logistics timelines and support costs and increased capability to support logistics planning and execution at tactical, operational, and strategic levels of logistics support. Supports: Total Distribution System, Combat Services Support Control System and Global Transportation Network.

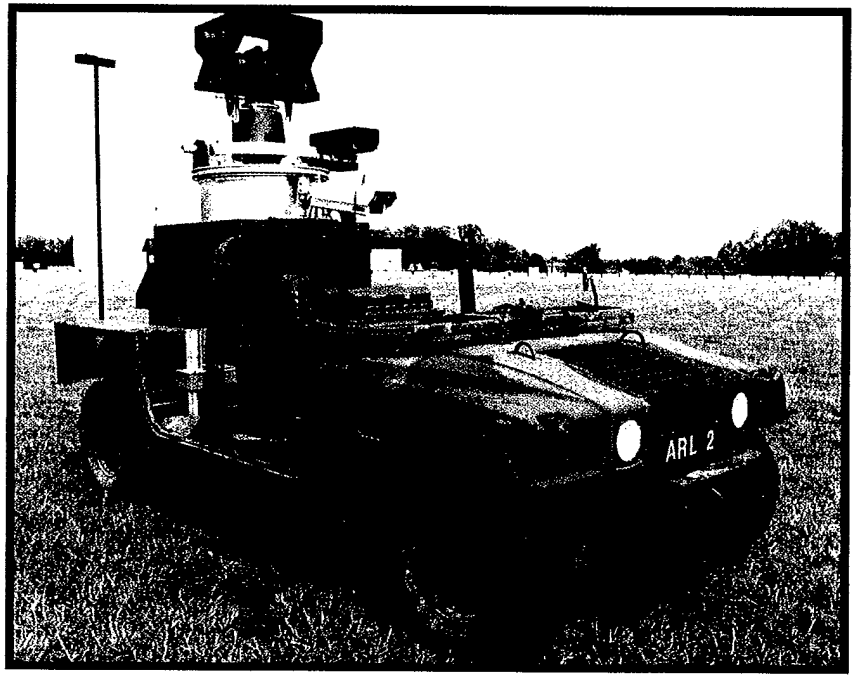
INTEGRATED HIGH PERFORMANCE TURBINE ENGINE TECHNOLOGY (IHPTET) (89 – 03):

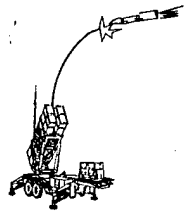
The IHPTET initiative is a DoD, NASA, and industry turbine engine technology program which embodies virtually all government-sponsored research and development efforts devoted to advancing aircraft and missile turbine engines. The goal of IHPTET is to double turbine engine propulsion capability by the turn of the century. It covers both military and commercial applications in three categories: (1) man-rated thrust (fixed wing), (2) man-rated shaft (rotorcraft), and (3) expendable engines (missiles). IHPTET advancements will result from the synergistic effect of combining advanced material developments, innovative structural designs, improved aerothermodynamics, and component integration. The Army's principal contribution is in a 6.3 technology demonstrator called the Joint Turbine Advanced Gas Generator (JTAGG). JTAGG I+ will reduce specific fuel consumption by 30% and improve power to weight ratio by 80% over the T700 engine baseline by FY97 with additional improvements projected out to 2003. The IHPTET initiative will guide development of new aircraft and missile turbine engine technology from component development to demonstration. In this manner, advanced components and technologies should be ready for transition to weapons systems at lower technical risk and cost, provide greatly improved engine performance, and continue the civil and military excellence of the U.S. in aircraft and missile gas turbines. Supports: RAH-66 Comanche, AH-64 Apache Improvement, Joint Transport Rotorcraft.

FAMILY OF OPERATIONAL RATIONS (FOR): The FOR is a scenario-driven ration development program that supports highly mobile and forward deployed troops with innovative, highly acceptable components, suitable for use in arctic, jungle, desert, mountain and urban areas under all climatic conditions. The FOR represents technologically advanced food systems that consist of self-heating and ready-to-eat components. The family includes the self-heating individual entree meal, an integrated system for heating rations for remote, widely dispersed troops without the need for food service personnel or equipment and mobility enhancing, eat-out-of-hand components that represent an innovation to field feeding. These unique components such as sandwiches, dessert snacks and multifunctional performance enhancing components allow for eat-on-the-move capability, while providing high quality, familiar type foods. Technology demonstrations during FY95 have provided extremely positive feedback from soldiers and will serve as the basis for developing future rations to meet the requirements for Army Field Ration 2000. Supports: DoD Joint Food Program.



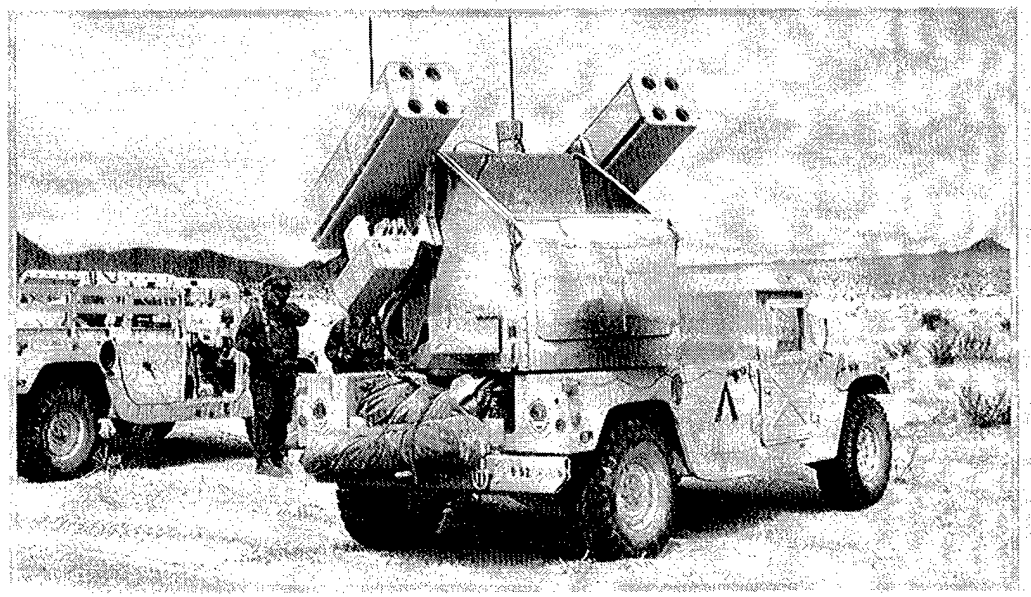
INTELLIGENT VEHICLES: The employment of a weapon system utilizing autonomous vehicle technologies as well as state-of-the-art sensors, GPS, and new communications technologies will also serve to provide unique combat capabilities to the commander in the field that will permit him to strike in more bold and riskier ways: robots being more expendable than soldiers. In addition, robotics technologies developed by ARL will give the commander the ability to multiply his force and conduct continuous operations more effectively on the battlefield. Robotically employed systems such as the forward observer will also contribute to the commander's ability to strike operational and strategic targets in enemy controlled territory. In addition, the use of multiple robotics observation platforms will provide commanders a better overview of the battlefield situation as part of the Army's Battlefield Digitization efforts. An intelligent vehicle-based scout may be a key component of the Force XXI battlefield. Prototypes of this are to be evaluated at Fort Hood and the National Training Center.



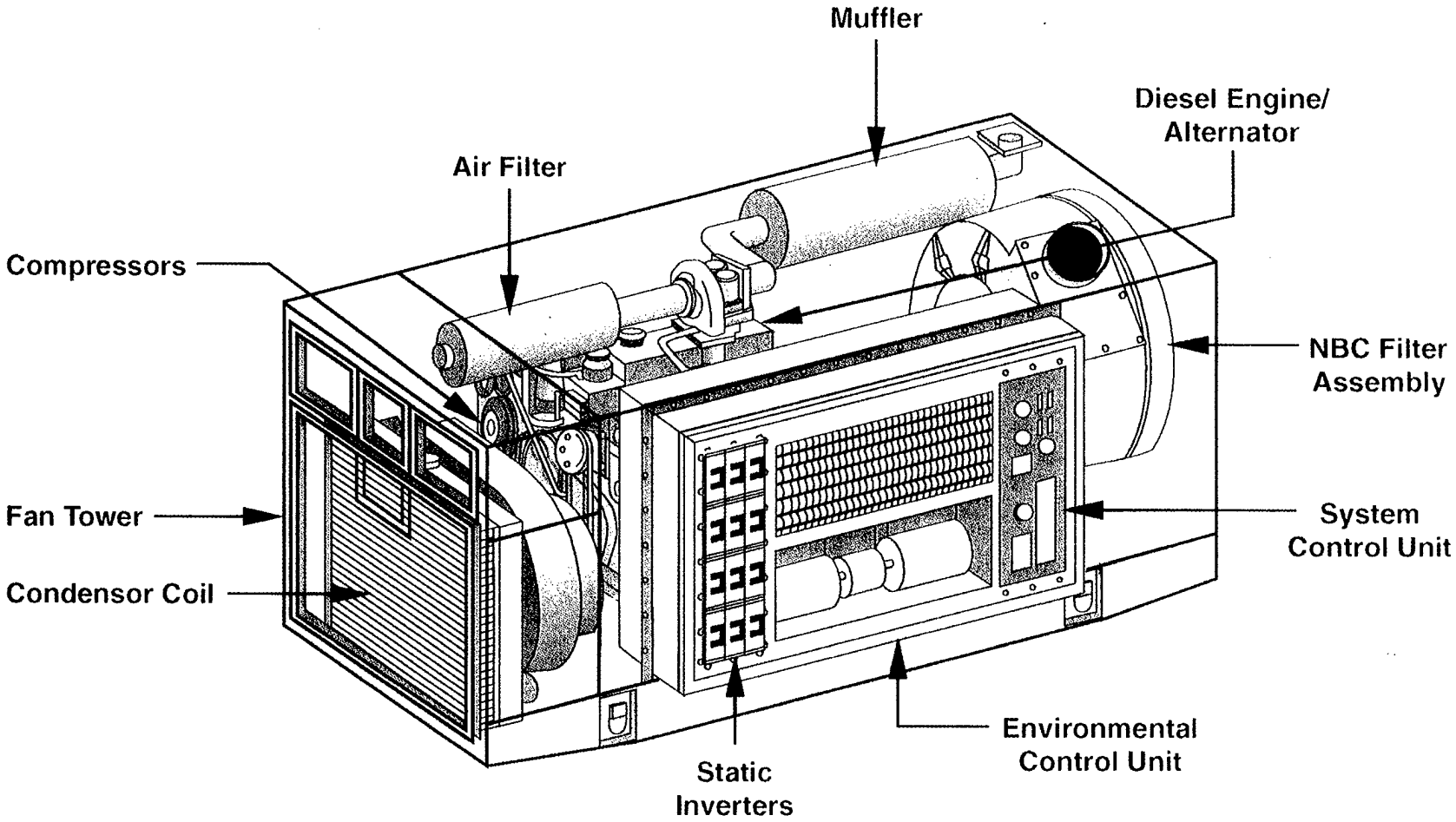


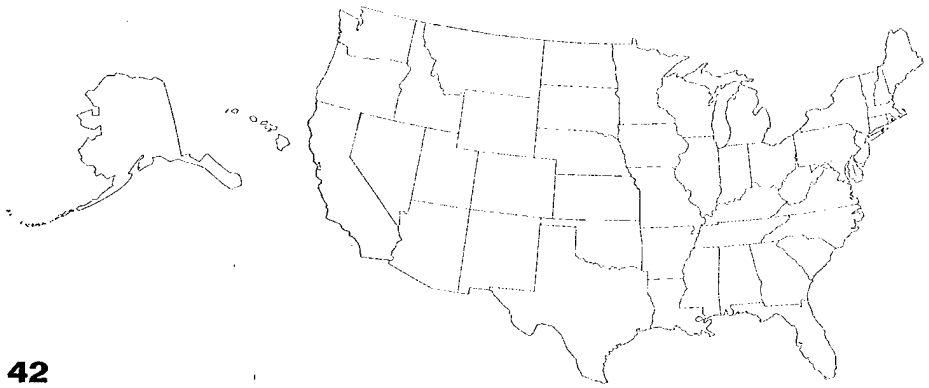
Army forces require improved protection against a wide variety of threats on the future battlefield. The threat posed by the growing proliferation of tactical ballistic missiles (TBMs) and nuclear, chemical and biological (NBC) weapon technology has drawn the greatest attention. The Army is investing in a mix of active and passive defense systems to deal with the TBM/NBC threat. Patriot, THAAD and MEADS are the core of Army active defense systems, which will protect the force against TBMs and other airborne threats such as cruise missiles and aircraft. Passive defense centers around systems that can detect or offer passive protection against nuclear, chemical and biological agents. This includes detection systems like the NBC Reconnaissance System – Fox and the Biological Integrated Detection System (BIDS). It also includes items like the M40 series protective mask and the Advanced Integrated Collective Protection System that offer soldiers protection from dangerous airborne agents.

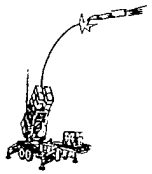
The Army is also concerned about the dangers posed by advanced conventional weapons and by fratricide. To counter the former, the Army is developing lighter and stronger ballistic protection for the individual soldier as part of the Soldier System program. The Army is also acquiring new vehicle mounted smoke generators to improve the capability to conceal moving forces and high value targets. To reduce fratricide the Army is pursuing two options. The Battlefield Combat Identification System (BCIS) will provide an interrogation/response system for Army weapons platforms that will allow them to accurately and instantly identify friendly forces; the digitization program for Army forces will provide pilots and vehicle commanders with total situational awareness that will allow them to locate friendly vehicles and distinguish them from hostile targets.



SCIENCE AND TECHNOLOGY	CONCEPT	DEM/ VAL	EMD	PRODUCTION AND DEPLOYMENT	OPERATIONS AND SUPPORT
Air Force Combined Arms Weapon Systems (AFCAWS)	Medium Extended Air Defense System (MEADS)	Theater High Altitude Area Defense (THAAD) System	Advanced Integrated Collective Protection System (AICPS)	(Generator, Smoke, Mechanical, Motorized, Dual Purpose Unit (M56)	Avenger
Hand Countermine ACTD	National Missile Defense (NMD)		Battlefield Combat Identification System (BCIS)	Nuclear, Biological and Chemical Detection	Patriot
Robotic Smart Mine Dispenser (ORSMO) ATD			Forward Area Air Defense Ground Based Sensor (FAAD GBS)	Nuclear, Biological and Chemical Detection	Protective Mask (M40 Series)
Rifle Interface for Weapon Location ATD			(Generator, Smoke, Mechanical, Mechanized Smoke Obscurant System (M58)	Nuclear, Biological and Chemical Reconnaissance System (NBCRS) - ROX	
Battlefield Combat Identification (BCID) ATD			Joint Tactical Ground Station (JTAGS)	Soldier System	
21st Century Land Warrior (21CLW) Integrated Technology Program				Stinger	
Generation II Soldier (GEN II) ATD					
Objective Individual Combat Weapon (OICW) ATD					
Advanced Thermal Imaging (ATI) ATD					
NBC Sensors and Technology Program					
Hazards Identification ATD					
Medical Research and Development					







Protect The Force

MISSION: The AICPS provides pressurized, breathable air as well as environmental cooling/heating and exportable power for vans and shelters.

CHARACTERISTICS: The AICPS is a fully integrated Collective Protection System that provides environmental control and breathable air at positive pressure to the enclosure in any climate or when challenged with current or future chemical or biological agents equipment. It reduces the filter change logistics burden by using a new-design, deep-bed carbon filter that is environmentally acceptable and has a minimum useful life of three years. The AICPS provides exportable power, over and above the power AICPS requires for filtration and environmental control. The AICPS is adaptable to a wide range of shelters and vans and offers a significant weight and volume reduction.

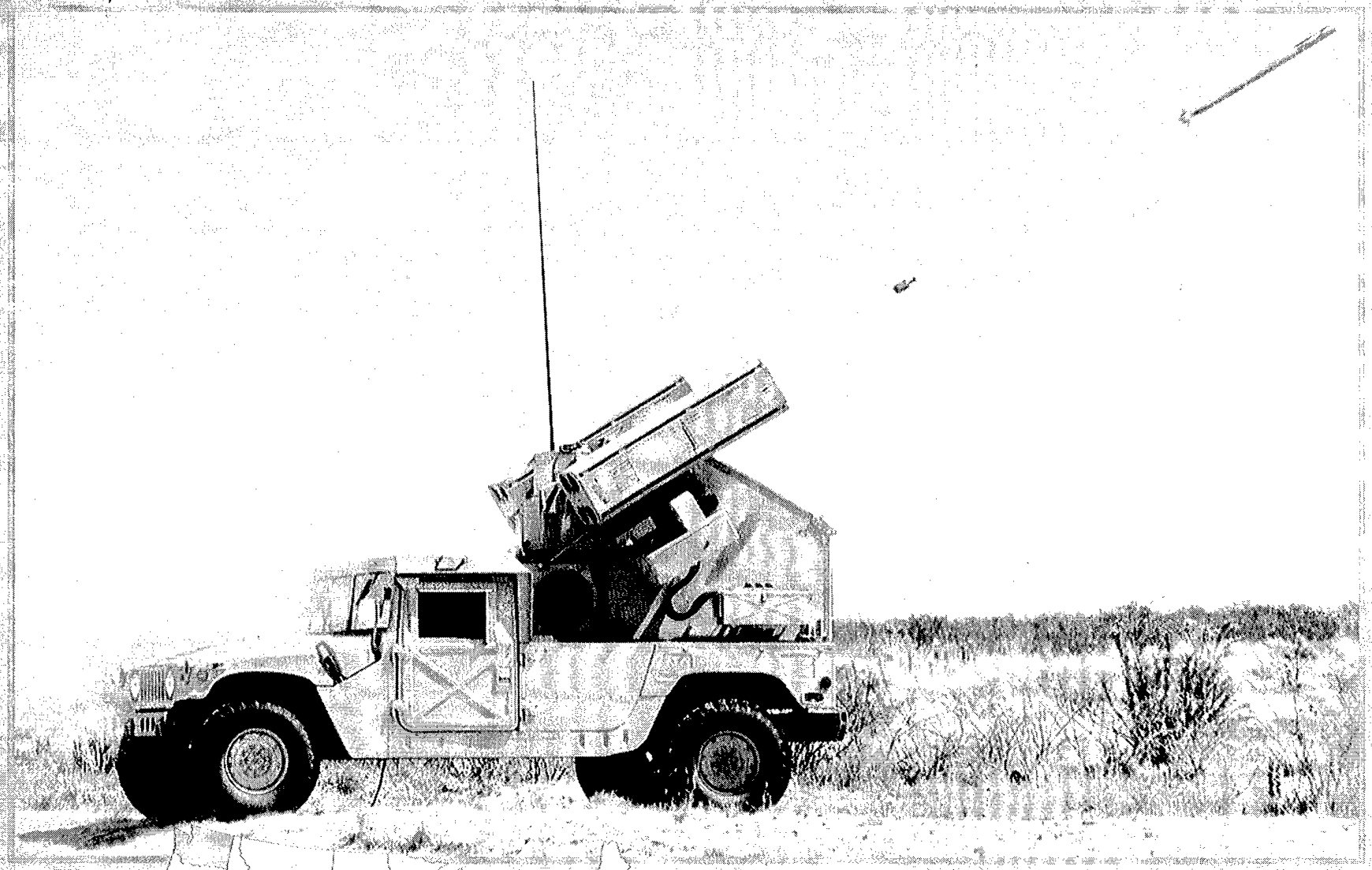
Parameter:	XM33 (Light)	XM32 (Medium)	XM31 (Heavy)
Airflow:	200 ft^3/min	200 ft^3/min	400 ft^3/min
Cooling:	18,000 Btu/	36,000 Btu/	60,000 Btu/
Heating:	13,150 Btu	29,900 Btu	46,000 Btu
Exportable power:	5 kW	10 kW	10 kW

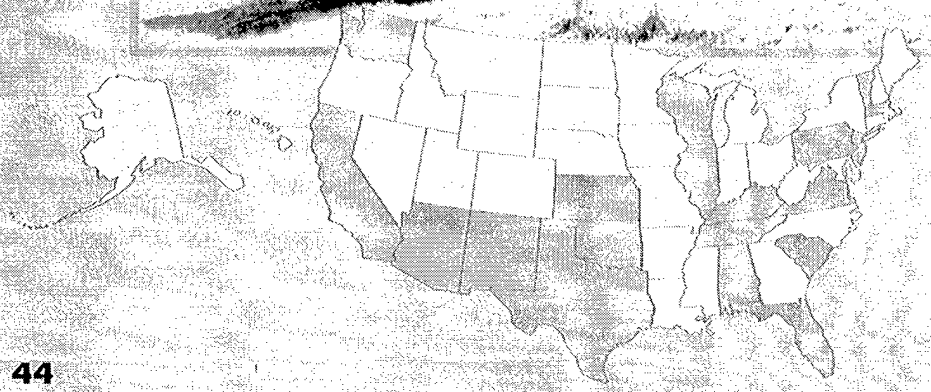
FOREIGN COUNTERPART: No known foreign counterpart.

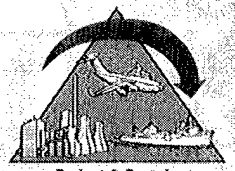
PROGRAM STATUS: AICPS is currently in the Design/Development Phase. Contract was awarded in June 1994 as a single-phase, Engineering and Manufacturing Development effort. The development program will conclude with a Milestone III in the 2QFY98.

PROJECTED ACTIVITIES: Develop, manufacture, and test NBC filter prototype and fabricate system prototype.

PRIME CONTRACTOR: Loral (Loral Librascope) (Glendale, CA)







Project & Sustain

Protect The Force

MISSION: Avenger provides mobile, short-range air defense protection to divisions, armored cavalry regiments, separate heavy brigades, and corps air defense brigades.

CHARACTERISTICS: The Avenger system is a light-weight, highly mobile, and transportable surface-to-air missile/gun weapon system mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV). Avenger is designed to counter hostile cruise missiles, unmanned aerial vehicles, and low-flying, high-speed, fixed-wing aircraft and helicopters attacking or transiting friendly airspace. Avenger fills the Line of Sight-Rear (LOS-R) portion of the Forward Area Air Defense Systems (FAADS). It has a two-man crew and can operate in day or night, clear or adverse weather conditions. The system incorporates an operator's position with displays, fire control electronics, and the Standard Vehicle Mounted Launcher (SVML). The SVML supports and launches multiple Stinger missiles.

Armament:	8 ready Stinger missiles/.50 caliber machine gun
Sensors:	FLIR/laser/optical
Chassis:	Modified HMMWV
Fire control:	Digital fire control computer/gyro-stabilized electronic turret

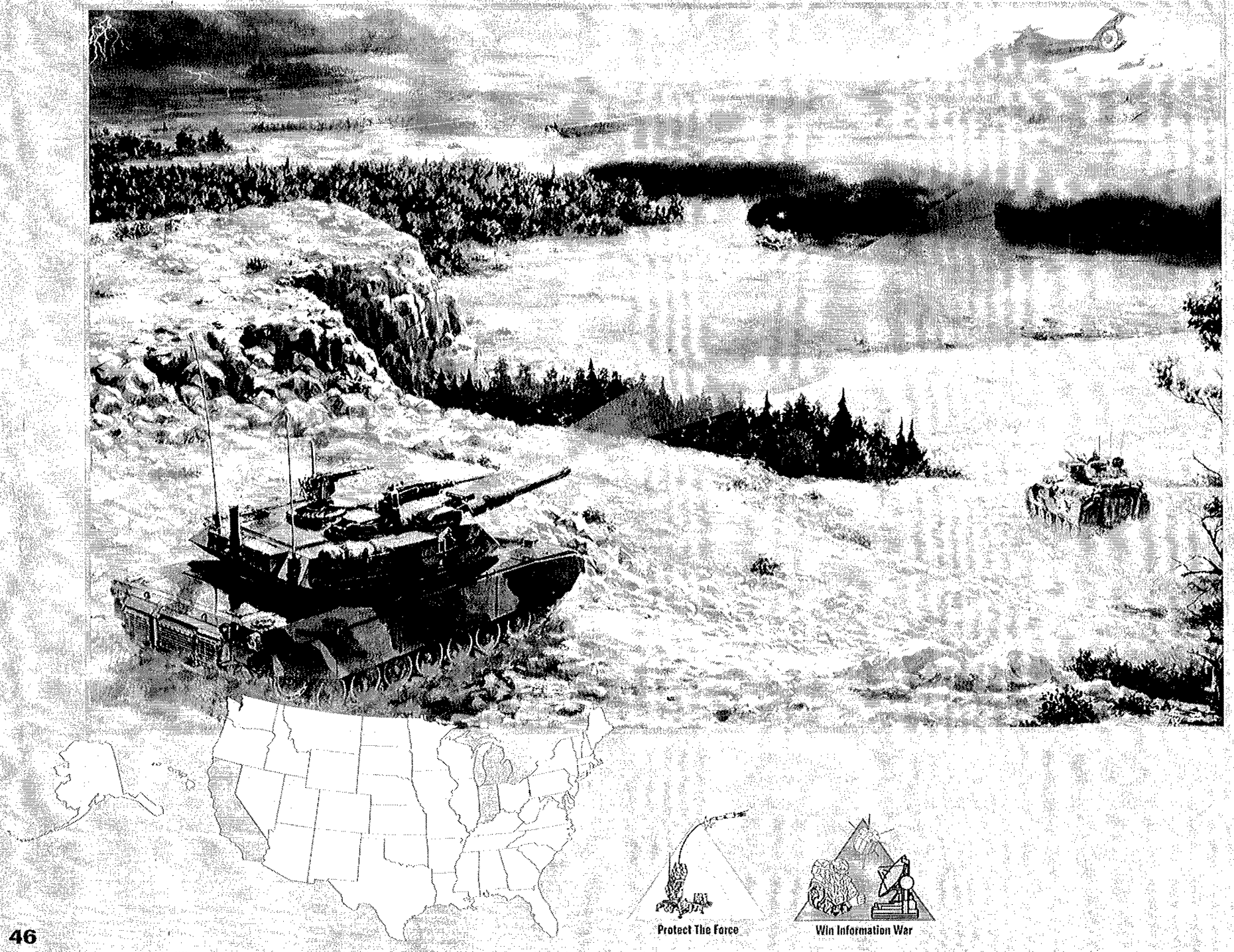
FOREIGN COUNTERPART: Russia: SA-9

PROGRAM STATUS: The initial production contract was awarded competitively to the Boeing Aerospace company in August 1987. Avenger was Type-classified Standard in February 1990 and began full-scale production in April 1990. A five-year, multi-year contract was awarded in February 1992 to procure 1001 fire units for the Army, the National Guard and the U.S. Marine Corps (USMC). The Army stop buying Avengers at the end of the fourth year of the multi-year in FY94. The USMC did procure additional fire units in FY95. The Mississippi National Guard began receiving its fire units in October 1995.

PROJECTED ACTIVITIES: The last Army fire unit will be fielded in 2QFY96 and the USMC fieldings will continue through FY96.

PRIME CONTRACTOR: Boeing (Boeing Aerospace) (Huntsville, AL; Oakridge, TN)

* See appendix for list of subcontractors.


Protect The Force
Win Information War

MISSION: The BCIS will provide the materiel solution for minimizing battlefield fratricide incidents.

CHARACTERISTICS: The BCIS is a point-of-engagement, millimeter-wave (MMW), question-and-answer type of system that will greatly reduce the risk of fratricide during military operations. The BCIS will provide positive identification of friendly ground platforms and dismounted soldiers from both ground and air weapons platforms and dismounted soldiers. The BCIS, via its digital data link capability, will provide local situational awareness of information with sufficient position resolution and timeliness to support the fire/no-fire decision at the platform level and improve combat effectiveness. Weapons platforms that have a direct fire capability and/or are instrumental in initiating indirect fire missions will transmit an interrogating MMW signal toward the suspect target. Friendly platforms will respond automatically through their transponding component with its identification as a friend. The BCIS is an integral part of the Army's digitized effort for combat identification and is one of three Horizontal Technology Initiatives. It will be used by Combat, Combat Support, and Combat Services Support units within the CONUS contingency forces.

Operating frequency range:	MMW (ground-to-ground; air-to-ground) or UHF (air-to-ground)
Antenna coverage:	Directional (interrogator)
	Omni or 360 deg (transponder)
Range:	150m – 5,500m (ground-to-ground)
	150m – 8,000m (air-to-ground)
Target identification time:	< 1 sec

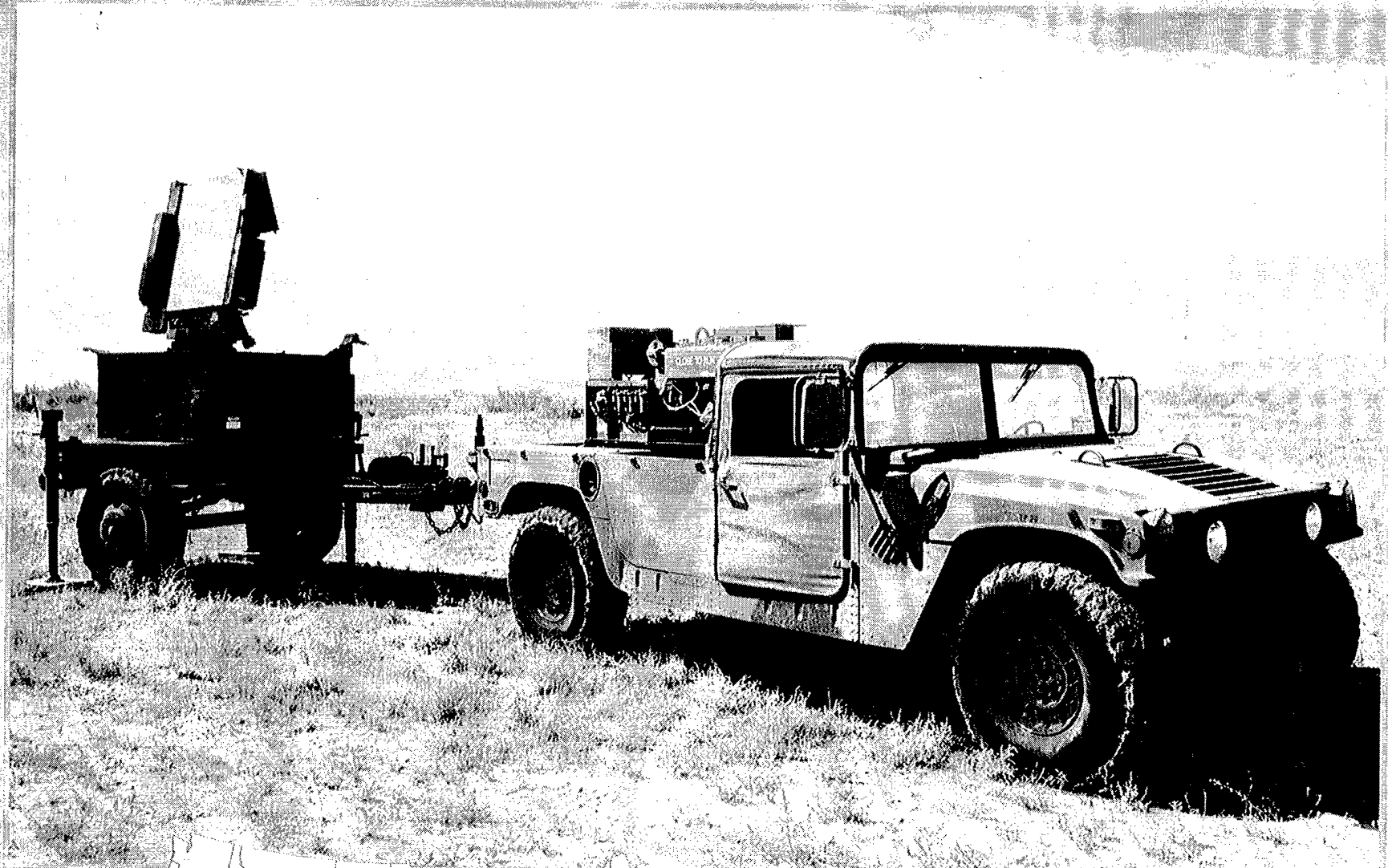
FOREIGN COUNTERPART: No known foreign counterpart.

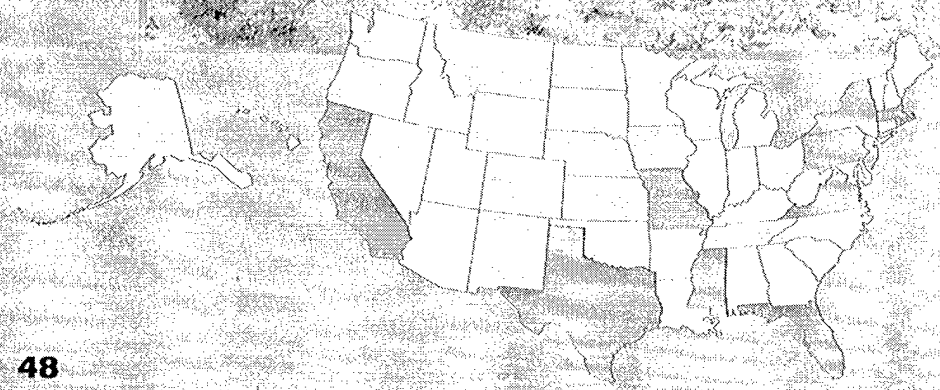
PROGRAM STATUS: The BCIS is currently in the Engineering and Manufacturing Development phase with 70 units delivered as of 2Q96. BCIS has been tested on the Abrams M1A1 and M1A2, HMMWV, FISTV, and Bradley Fighting Vehicle with demonstrated system performance which met/exceeded critical requirements. The Production Qualification Test and the Limited User Test were completed in 4Q95 and 1Q96, respectively.

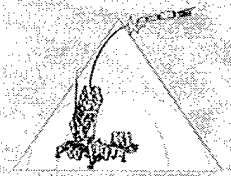
PROJECTED ACTIVITIES: Initiate Low-Rate Initial Production in 1Q97.
Participate in TF XXI 2Q97.
Participate in International Demo 3Q97.

PRIME CONTRACTOR: TRW Inc. (Redondo Beach, CA)
Magnavox (Ft. Wayne, IN)

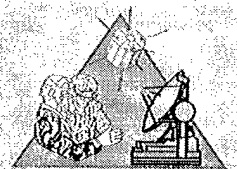
* See appendix for list of subcontractors.







Protect The Force



Win Information War

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

MISSION: The FAAD GBS provides target acquisition and tracking capabilities for the FAAD system.

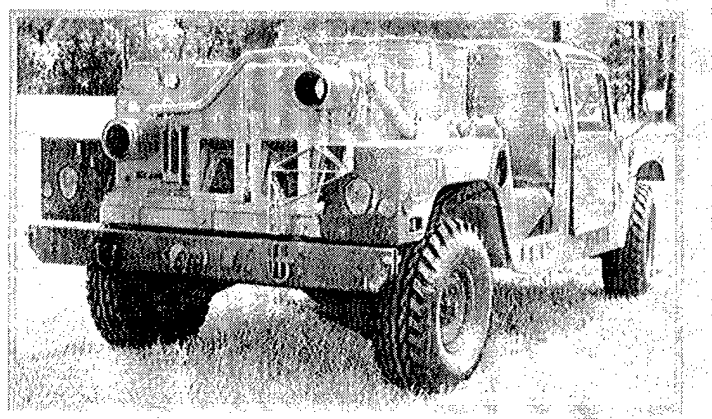
CHARACTERISTICS: The GBS consists of a radar-based sensor system with its prime mover/power, Identification Friend or Foe (IFF), and FAAD Command and Control Intelligence (C2I) interfaces. The sensor is an advanced three dimensional battlefield X-band air defense phased-array radar with an instrumented range of 40 km. The GBS is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols, and enemy countermeasures. It provides 360 degree azimuth coverage for acquisition and tracking. The GBS contributes to the digital battlefield by automatically detecting, tracking, classifying, identifying, and reporting targets (unmanned aerial vehicles, rotary wing, and fixed wing aircraft). Targets can be hovering to fast moving, as well as, from nap of the earth to the maximum engagement altitude of FAAD weapons. Very accurate and quick reacting, GBS acquires targets sufficiently forward of the Forward Line of Own Troops (FLOT) to improve FAAD weapon reaction time and allow engagement at optimum ranges. The GBS integrated IFF reduces the potential for fratricide of Army Aviation and Air Force aircraft. Highly mobile and reliable, the GBS Anti-Radiation Missile and Electronic Counter-Measures resistant performance support Army Corps and Divisional Air Defense operations across the full spectrum of conflict. GBS uses a HMMWV as its prime mover. It is transportable without disassembly in USAF C-130, C-141, C-17 and C-5 aircraft and U.S. Army CH-47 helicopters. It is designed to be transported as external cargo (sling load) by U.S. Army UH-60 aircraft. The GBS is capable of being march-ordered and emplaced by two soldiers. The system is capable of normal operation while attended by one soldier and will not require continuous operator attention to perform normal operations.

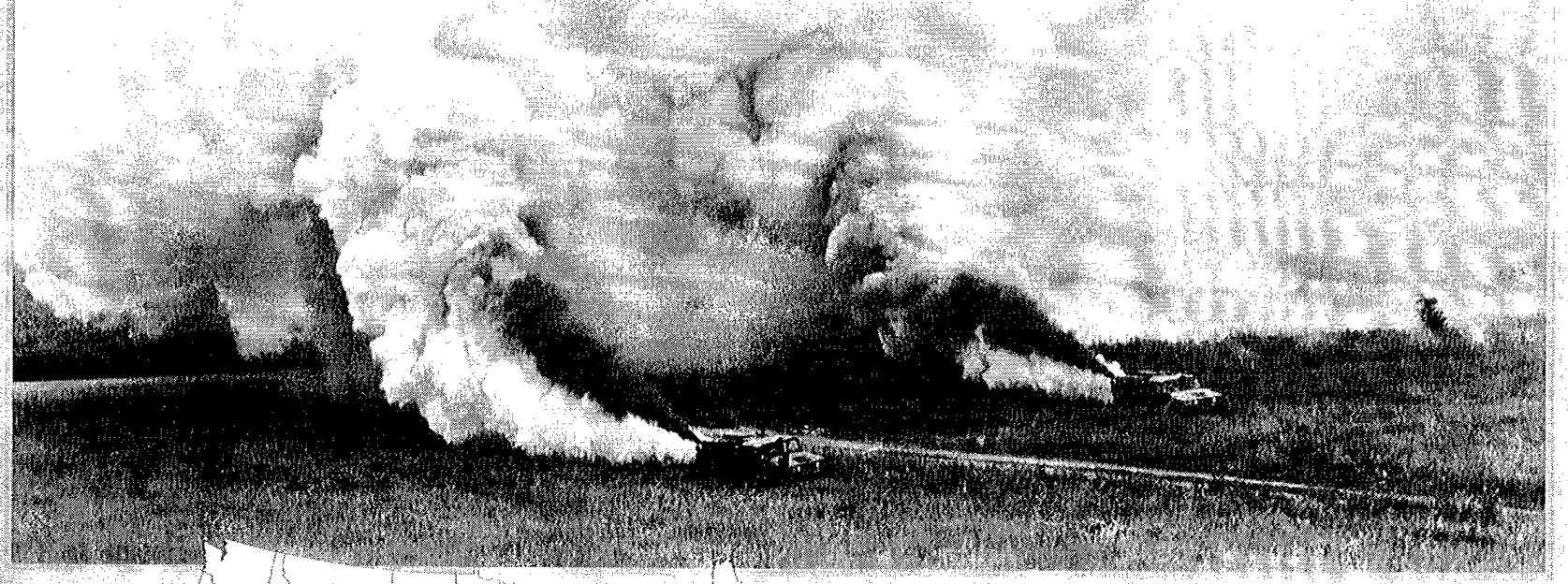
FOREIGN COUNTERPART: Seven other foreign air defense radars which specialize in search and track of low and slow airborne targets are: Contraves LPD-20 (Italy); Skyguard-Improved (Switzerland); Hot Shot 2S6 (Russia); El Dorado (France); Siemens DR-641 (Germany); Rodeo (France) and RA-20S (France).

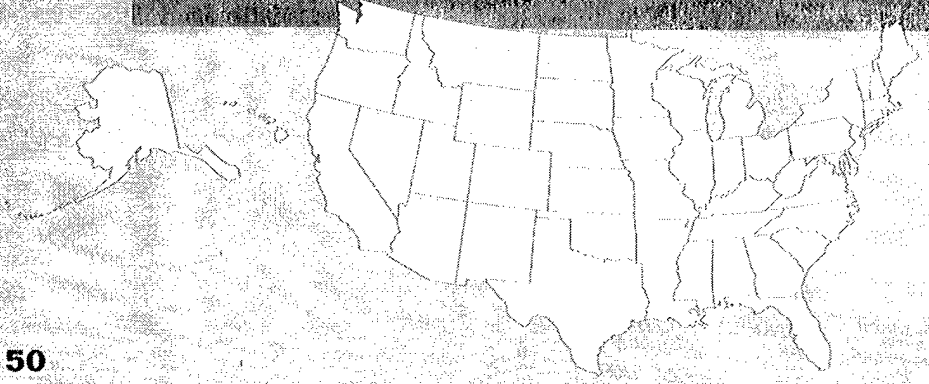
PROGRAM STATUS: The contract was awarded in 2QFY92. FAAD GBS is in the Production and Deployment phase.

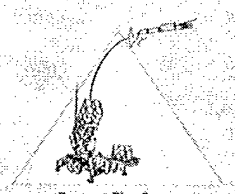
PROJECTED ACTIVITIES: Low-Rate Initial Production (LRIP) Deliveries FY96.
First Production Option Award FY96.
Production Verification Test (PVT) FY97.
Production Fielding to 2AD FY97.

PRIME CONTRACTOR: General Motors Corp. (Hughes Aircraft Company) (El Segundo, California)









MISSION: The mechanical smoke generator (M56) provides large-area obscuration in the visual and infrared spectra.

CHARACTERISTICS: The M56 is a large-area smoke generator system that is mounted on the HMMWV. The M56 will obscure high-priority targets, such as airfields, bridges, and ammunition depots, as well as convoys and troop movements. The system is modular and uses a gas turbine engine as a power source to disseminate obscurants. The visual screening module is capable of vaporizing fog oil at a rate equal to the M157 smoke generator for up to 60 minutes. The infrared screening modules is capable of disseminating a particulate material to provide 30 minutes of screening.

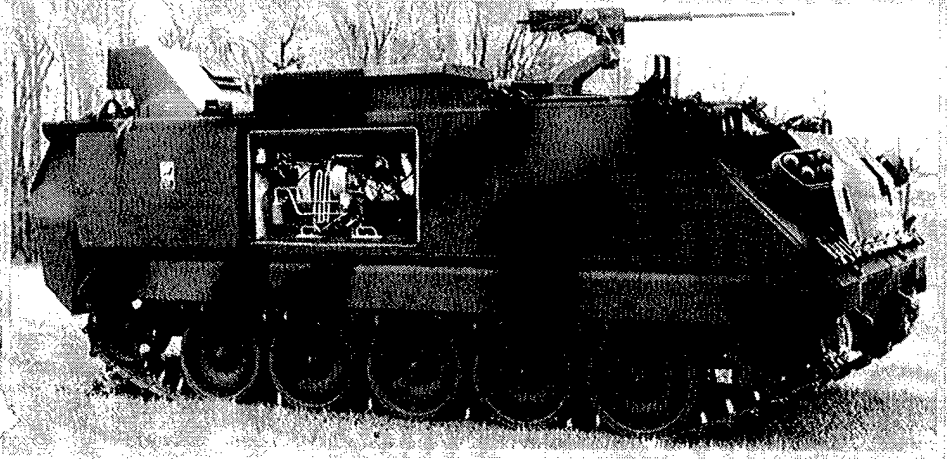
Gas turbine engine-powered	
visual screening (fog oil):	1.33 gal/min
	1 hr continuous
Infrared screening (graphite):	10 lb/min
	30 min continuous

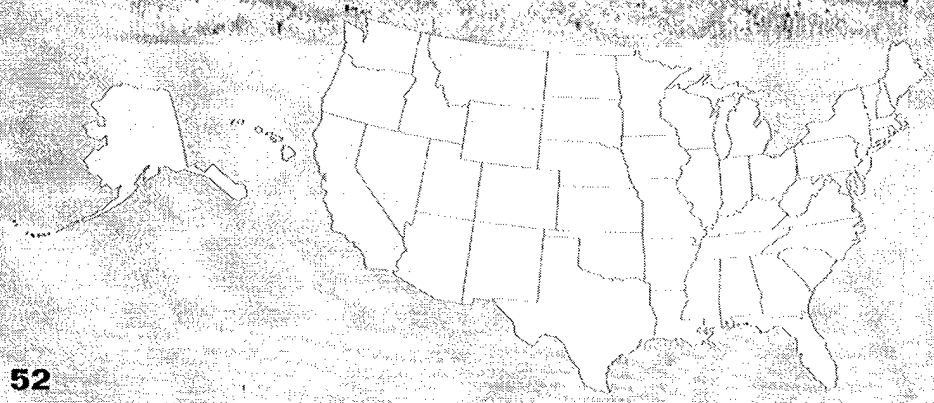
FOREIGN COUNTERPART: Countries using Soviet doctrine emphasize extensive use of smoke during tactical exercises. Many nations, especially those in the Middle East, are beginning to realize the benefits of smoke and have developed programs in this area.

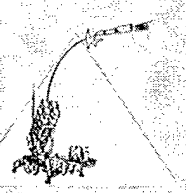
PROGRAM STATUS: The M56 Smoke Generator was type classified standard in September 1994. A production contract was awarded in March 1995. Fielding will begin in FY97.

PROJECTED ACTIVITIES: The First Unit Equipped (FUE) will be in March 1997.

PRIME CONTRACTOR: Robotic Systems Technology (Westminster, MD)







Protect The Force

MISSION: The mechanical smoke generator (M58) system enhances the maneuver commander's ability to deploy his forces. Seven vehicles are organized into two squads, led by the platoon leader in the seventh vehicles. The M58 smoke platoon is task organized to the brigade or divisional commander, who will use them to conceal ground maneuver forces, breaching, river crossing, and recovery operations. Three platoons are assigned to the Mechanized Smoke Company and one platoon to the Divisional Chemical Company.

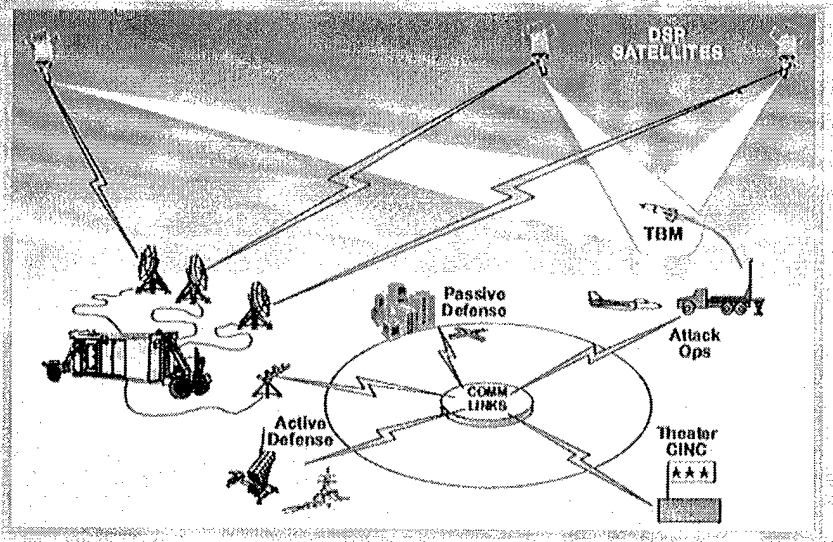
CHARACTERISTICS: The M58 consists of a mechanized smoke generator system mounted in a modified M113A3 Armored Personnel Carrier. The carrier incorporates the Reliability Improvement of Selected Equipment (RISE) configuration that includes an upgraded engine and transmission, external fuel tanks, and new driver's station. The 225 hp Detroit Diesel powerpack provides a 20.3 hp/ton ratio at a combat loaded weight of 27,000 pounds. This is sufficient to maintain mobility with the M1 and M2/M3 vehicles the M58 supports. The smoke generator system provides up to 90 minutes of visual and 30 minutes of infrared obscuring screens. A 30-minute MMW obscuring capability will be added as a product improvement. The system includes the Driver's Thermal Viewer that allows it to see through its own smoke clouds and a Gas Particulate Filter Unit for operating in an NBC-contaminated environment. A crew of three will operate the M58 system.

FOREIGN COUNTERPART: Countries using Soviet doctrine emphasize extensive use of smoke during tactical exercises. Many nations, especially those in the Middle East, are beginning to realize the benefits of smoke and have developed programs in this area.

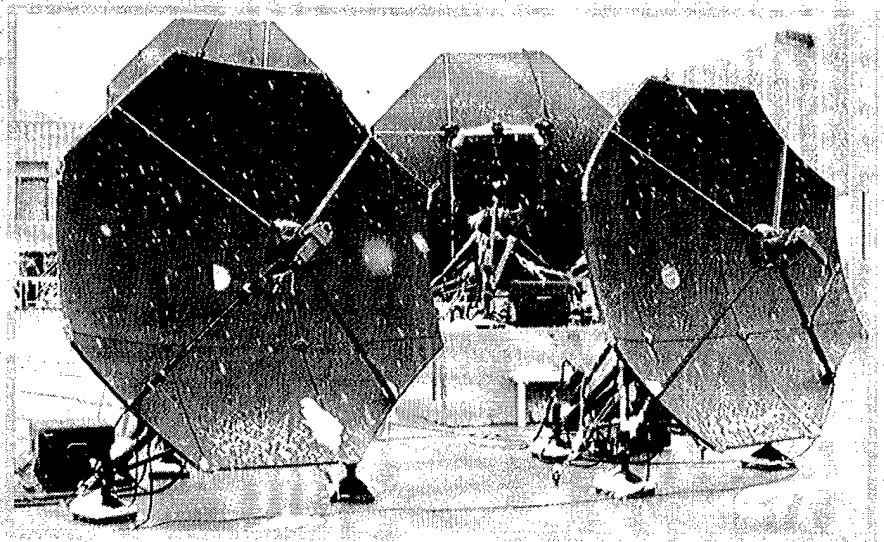
PROGRAM STATUS: The M58 program entered the production and deployment phase in FY96.

PROJECTED ACTIVITIES: Production is scheduled for FY96-99, with production verification testing scheduled 2QFY97 and fielding through FY97-00.

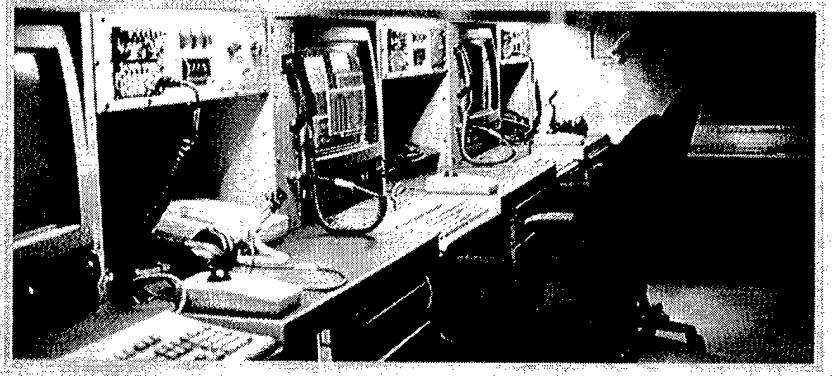
PRIME CONTRACTOR: Anniston Army Depot (Anniston, AL)



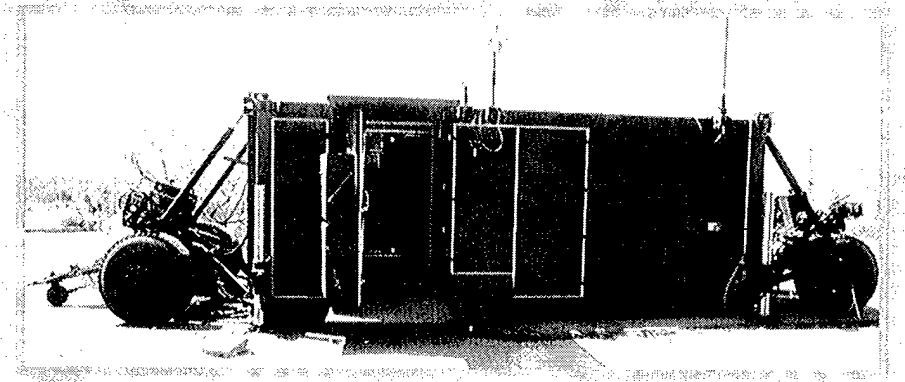
JTAGS Supports Theater Missile Defense



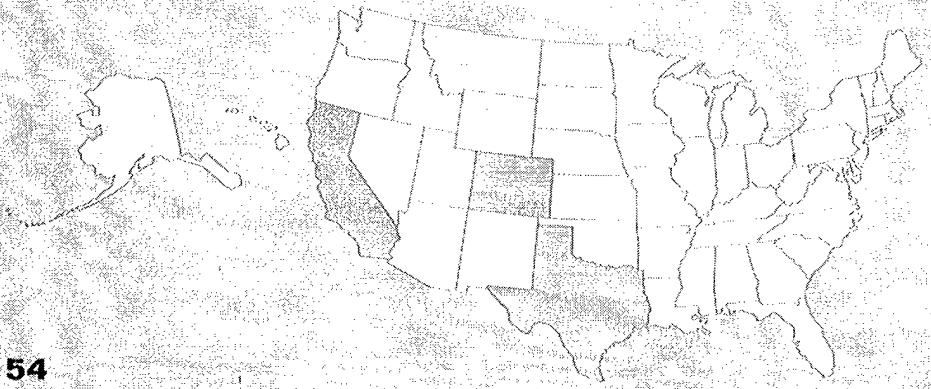
Downlink Antennas

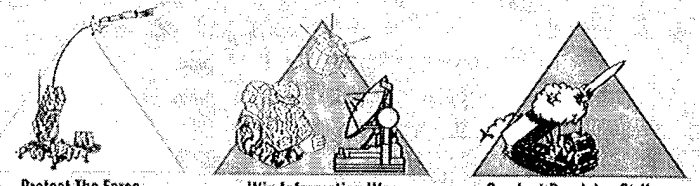


Operator Workstations



Shelter and Mobilizer





Protect The Force | Win Information War | Conduct Precision Strikes

MISSION: JTAGS will receive and process data in-theater from space-based infrared sensors and disseminate warning, alerting and cueing information on TBMs and other tactical events of interest.

CHARACTERISTICS: JTAGS is a theater tactical ground station contained in an 8 ft by 8 ft by 20 ft ISO shelter. The system is transportable by C-141 aircraft and can be operational within hours. For redundancy, during contingency situations, the system is deployed in pairs. It is envisioned that the system will be jointly operated during crisis situations. To reduce cost and accelerate fielding, JTAGS utilizes commercial off-the-shelf hardware with minor modifications to enhance transportability and deployment options. This system is being developed to interface with major existing and planned communication systems.

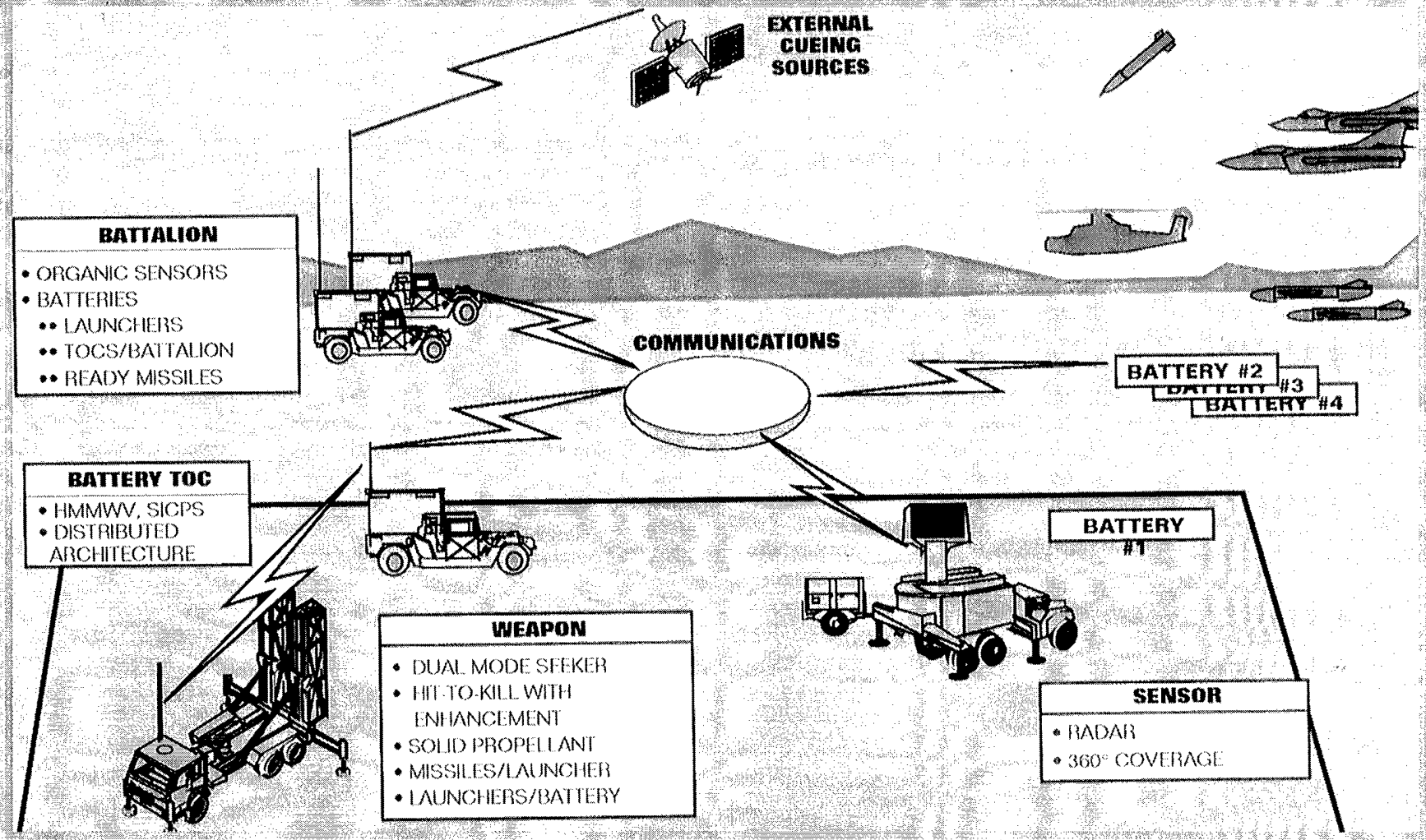
FOREIGN COUNTERPART: No known foreign counterpart.

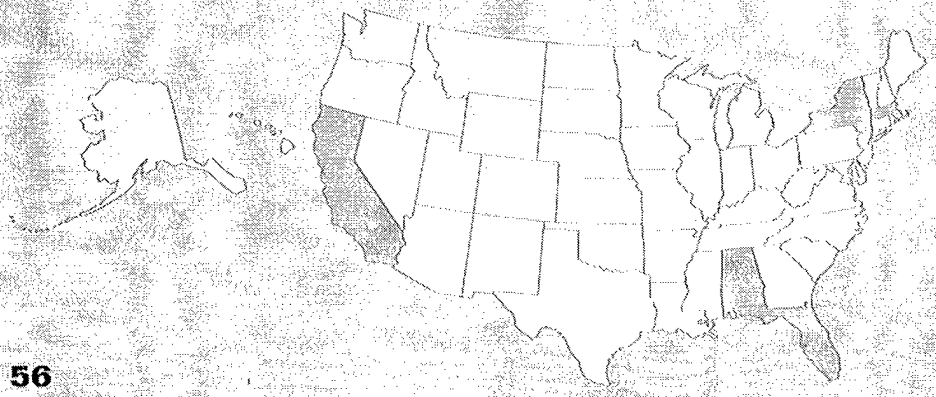
PROGRAM STATUS: JTAGS is a Program Executive Office Missile Defense, ACAT III managed program, and is a joint interest effort with the Navy. The program has transitioned from a BMDO/USASSDC Advanced Technology Demonstration to a formal acquisition program. The technical feasibility of JTAGS was validated by the Tactical Surveillance Demonstration proof-of-principle prototype, which was successfully tested at White Sands Missile Range. A transportable prototype was delivered during FY93 and underwent developmental and operational testing during 4QFY93 and 1QFY94. Both prototypes are currently deployed supporting EUCOM and PACOM. A successful MS II IPR decision was held on 6 May 1994 which approved entry into EMD. The EMD contract with production options was awarded on 8 July 1994. The two EMD prototypes were delivered 3QFY95 and are undergoing technical and operational testing.

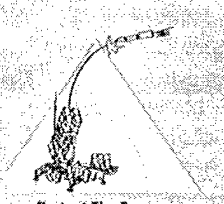
PROJECTED ACTIVITIES: Production units to be fielded in FY97.

PRIME CONTRACTOR: GENCORP Inc. (Aerojet Electronic Systems) (Azusa, CA; Colorado Springs, CO)

* See appendix for list of subcontractors.







Protect The Force

MISSION: MEADS will provide low-to-medium air and theater missile defense to the maneuver forces and other critical forward deployed assets throughout all phase of tactical operations. It will operate both in an enclave with upper tier systems in areas of debarkation and assembly and alone or with FAADS in the division area of the battlefield during movement to contact and decisive operations.

CHARACTERISTICS: MEADS will provide air and missile defense of vital corps and division assets associated with the Army and Marine Corps maneuver forces. MEADS will utilize a combination of a netted and distributed architecture, modularly configurable battle elements, interoperability with other airborne and ground based sensors, and improved seeker/sensor components to provide a robust defense against the full spectrum of TBM, cruise missile, UAV, TASM, RW and FW threats. MEADS will be designed to provide: 1) defense against multiple and simultaneous attacks by SRBMs, low cross-section cruise missiles, and other air-breathing threats to the force; 2) immediate deployment for early entry operations with as few as six C-141 sorties; 3) mobility to move rapidly and protect maneuver force assets during offensive operations; 4) a distributed architecture and modular components to increase survivability and flexibility of employment in a number of operational configurations; and 5) a significant increase in firepower while greatly reducing manpower and logistics requirements. Given these characteristics, MEADS can rapidly respond to a variety of crisis situations and satisfy the needs of the joint operational and tactical commanders.

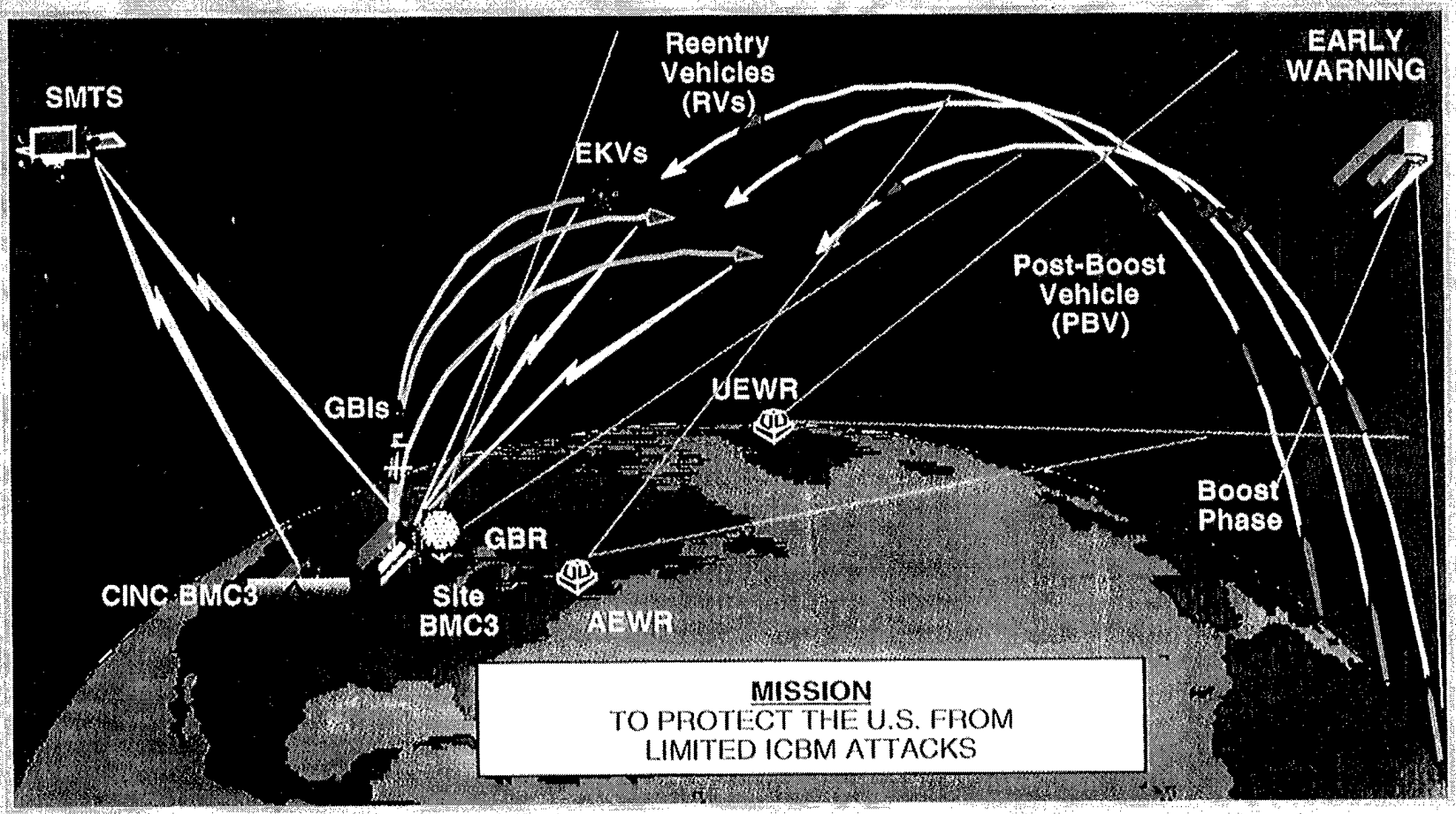
FOREIGN COUNTERPART: Germany: Taktisches Luftverteidigungs System (TLVS)

PROGRAM STATUS: Concurrent with the definition of the U.S. MEADS requirements and concepts, discussions with German (GE) government and industry confirmed similar operational/technical requirements which provided an opportunity for cooperation. Discussions were later expanded to include France (FR) and Italy (IT). On 20 February 1995 representatives of U.S., GE, FR, and IT signed a Statement of Intent (SOI) to cooperate on the development and production of the MEADS. This cooperation is based on the U.S. providing 50% of funding and receiving 50% of the workshare. A NATO agency will be formed to manage the MEADS program with the U.S. being the host nation for the management agency. The first phase of the cooperative program will be Project Definition and Validation (PD-V) during which two competing international teams will define total system concepts, establish system and prime item specifications, demonstrate critical functions, develop digital end-to-end simulations, and establish integrated program plans and cost estimate for the Design and Development and Production Phases.

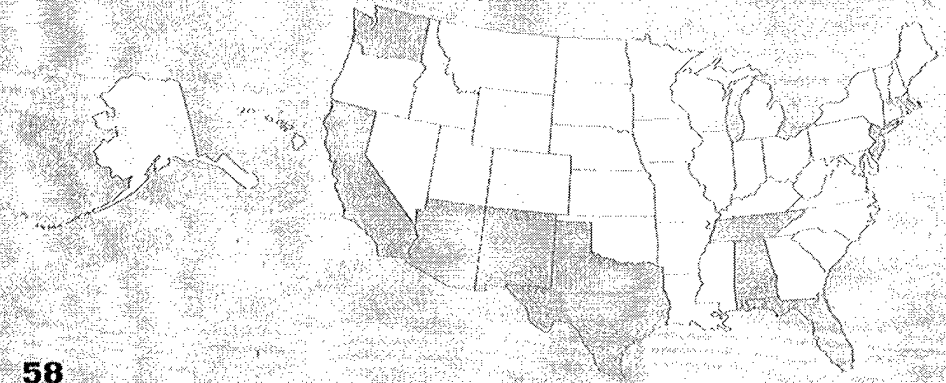
PROJECTED ACTIVITIES: Complete negotiation for the quadrilateral Memorandum of Understanding (MOU) for the PD-V phase, finalize the NATO Agency charter, and initiate the PD-V phase.

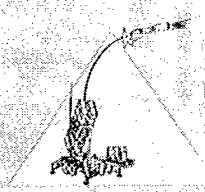
PRIME CONTRACTOR: U.S. for Teaming / PD-V—Lockheed Martin (Lockheed Martin Integrated Systems, Inc.) and Hughes/Raytheon Co. (Joint Venture),
European for teaming: Siemens (Germany), Deutsch Aerospace (Germany), Thomson (France), Aerospatiele (France), Alenia (Italy)

* See appendix for list of concept studies contractors.



GBR = Ground Based Radar, AEWR = Advanced Early Warning Radar, UEWR = Upgraded Early Warning Radar, EKV = EXO Kill Vehicle, GBI = Ground Based Interceptor, SMTS = Space & Missile Tradking System





Protect The Force

MISSION: To protect the United States against long range ballistic missile (ICBM/SLBM) by reducing the lead time to deploy an effective system capability.

CHARACTERISTICS: The National Missile Defense (NMD) system will interoperate with external Early Warning (EW) sensors (Space and Missile Tracking System, DSP and EWR) and the United States Space Command (USSPACECOM) Command and Control Center via CINC Battle Management Command Control and Communications (BMC^3). The Army elements of the NMD System include ground based exoatmospheric hit-to-kill interceptors, a ground based, phased array, national defense radar (for surveillance, track, object classification and kill assessment) and site BMC^3 (for human-in-control, engagement planning, top level decision making and system communications). For an effective early capability to protect all 50 states prior to SMTS availability, additional and upgraded EW radars may be required.

An NMD engagement is initiated based on early warning sensors detecting and designating hostile ballistic missile launches towards the U.S. and transmitting the tracking data through the CINC BMC^3 to the site BMC^3. Using data from surveillance and tracking systems including the ground based radar, the site BMC^3 aids the operators in identifying the hostile reentry vehicles and planning the engagement. After launch and burning of the booster, a kill vehicle separates and repositions itself pointing the seeker field-of-view to the predicted target position. The on-board computer receives additional target updates from the site BMC^3 based on surveillance data and executes "blind" intercept course correction maneuvers. Once uncapped, the on-board passive seeker searches and acquires the target and any associated objects in its field-of-view. The target is designated using a combination of target object map, provided by the site BMC^3 based on radar and EW sensor data, and on-board target selection capabilities. After target designation, the kill vehicle tracks the target executing "end game" maneuvers to achieve a direct impact kill. The intercept is monitored by the radar and EW sensors for final kill assessment or further battle management action, if required.

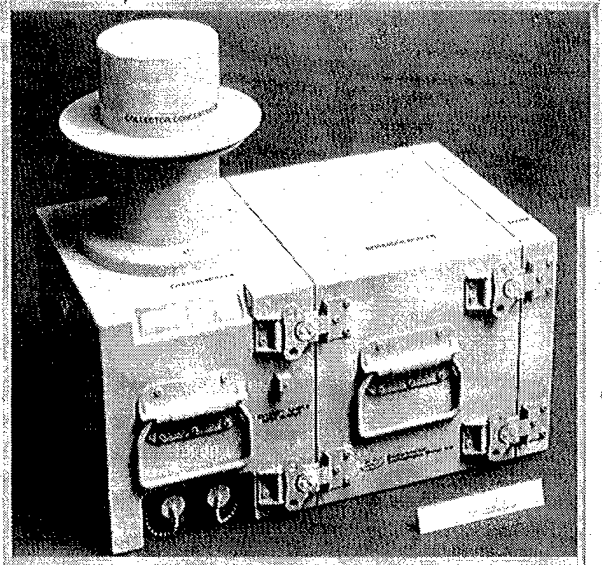
FOREIGN COUNTERPARTS: Russia: Moscow ABM System

PROGRAM STATUS: The Army-executed portion of the Ballistic Missile Defense Organization-sponsored NMD Technology Readiness Program is structured around development and demonstration of existing mature technologies for the establishment of a defense contingency capability that could be acquired and deployed on very short notice. The Ground Based Interceptor (GBI) program is resolving technology issues and validating the kill vehicle performance for development of the interceptor. The program will advance in complexity from seeker flights through prototype kill vehicle and interceptor flights. The NMD Ground Based Radar will utilize TMD-GBR technology in developing a prototype for testing at USAKA which will demonstrate resolution of critical long-pole technology areas such as discrimination, kill assessment and target object mapping.

PROJECTED ACTIVITIES: EKV sensor flight tests (two) in FY96/97; EKV intercept tests in FY98, FY99 and FY00; BMC^3 on-line (FY99) and in-line (FY99) during EKV tests; GBR prototype on-line during FY01 EKV test; and integrated radar, interceptor and BMC^3 flight test in FY02.

PRIME CONTRACTOR: EKV Contractors are General Motors Corp. (Hughes Aircraft Company) and Rockwell International. The payload launch vehicle (PLV) contractor is Lockheed Martin (Lockheed Missiles and Space Company). The GBR contractor is Raytheon. The BMC^3 contractor is TRW.

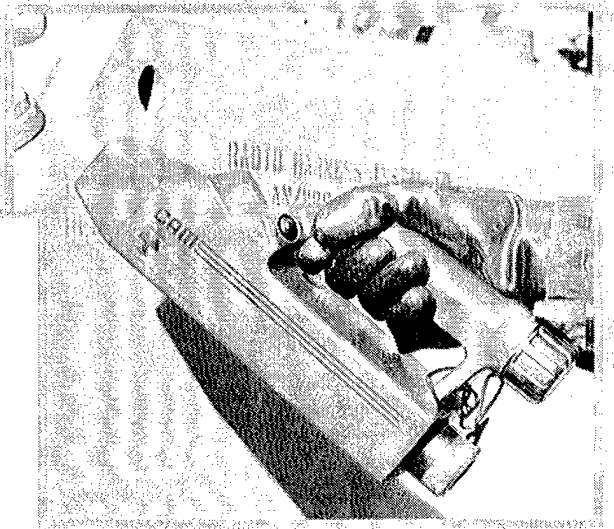
* See appendix for list of subcontractors.

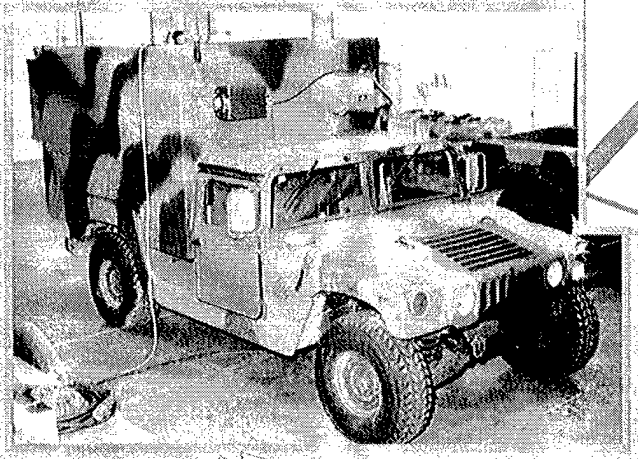


Bio-Chemical Detector

Chemical Agent Monitor

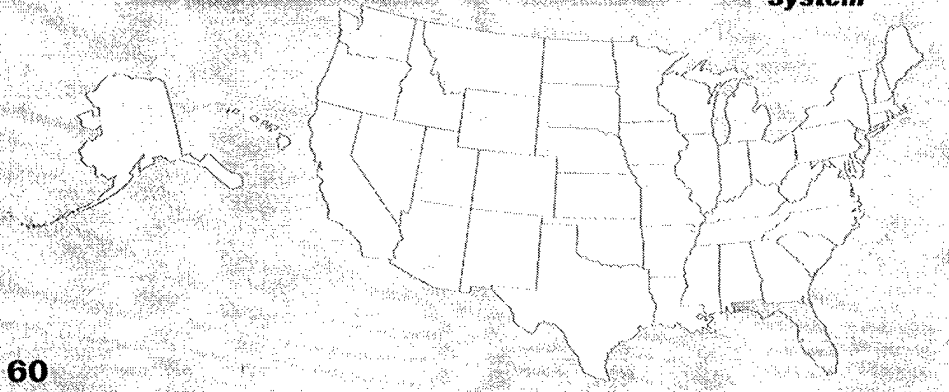
XM21 Remote Sensing Chemical Alarm

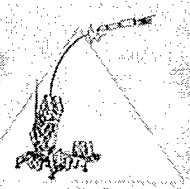




Biological Integrated Detection System

AN/PDR-77 Hand-Held Radiac and Accesories





Protect The Force

MISSION: NBC detection provides battlefield-essential early warning and monitoring capabilities.

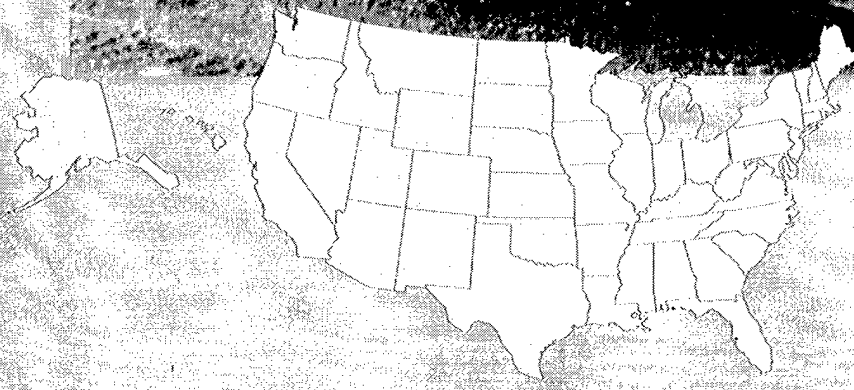
CHARACTERISTICS: There are four pillars of NBC defense: detection, avoidance, protection, and decontamination. U.S. doctrine stresses contamination avoidance when the scheme of maneuver permits. Detection is key to avoidance and timely protection measures. Monitoring devices are important to survey and decontamination operations. A strong NBC early detection, warning, and monitoring capability will save lives on the contaminated battlefield and sustain combat power by preventing performance degradation from protective posture and minimizing decontamination requirements.

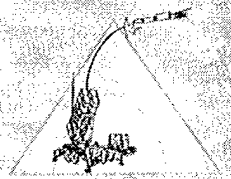
The United States currently is developing or producing NBC detection and monitoring equipment. The AN/PDR-77 detects and measures alpha, beta, gamma, and x-ray radiation. It currently is being fielded. The Biological Integrated Detection System (BIDS) is a system of biological detectors. The BIDS will have detectors, weather sensors, collective protection, and direct communication to Division Headquarters, enabling continuous monitoring and rapid alarm notification to field commanders. A Joint Program Office for Biological Defense was established, with the Army accepting the lead. The DoD Biological Defense Program consists of both medical (vaccines) and nonmedical (detection) assigned programs for all services. The Remote Sensing Chemical Agent Alarm, M21, detects and warns U.S. forces of toxic chemical agent attacks. The M21 has been type classified for low-rate production. The Chemical Agent Monitor (CAM) is a post-attack monitor employed in both monitoring and survey missions to determine the effectiveness of decontamination procedures and the limits of a contaminated area. The CAM has completed production in the United States.

FOREIGN COUNTERPART: Many nations have nuclear, biological, and chemical detection systems.

PROJECTED ACTIVITIES: Complete Type Classification for Pocket Radiac. Initiate production of the Improved Chemical Agent Monitor (ICAM).

PRIME CONTRACTOR:
Nuclear Research (Dover, NJ)
Battelle (Edgewood, MD)
Brunswick (Deland, FL)
Environment Technologies Group (Baltimore, MD)
Graseby Ionics (Watford, Herts, UK)





Protect The Force

MISSION: The NBCRS will detect, identify, and mark areas of nuclear and chemical contamination, and report accurate information to supported commanders in real time. The NBCRS can also sample for nuclear, biological and chemical contamination.

CHARACTERISTICS: The currently fielded XM93 and, soon to be fielded, M93A1 are wheeled armored vehicles equipped with a fully integrated nuclear and chemical detection, warning, and communications capability, and the added capacity to sample nuclear, biological and chemical contamination for future analysis. These systems can collect soil, water, and vegetation samples for later analysis; mark areas of nuclear and chemical contamination; and transmit, in real time, NBC information to unit commanders in the area of operation. The hazards to the NBCRS crew are minimized through the inclusion of vehicle NBC collective protection, providing positive overpressure with heating and cooling for crewmen.

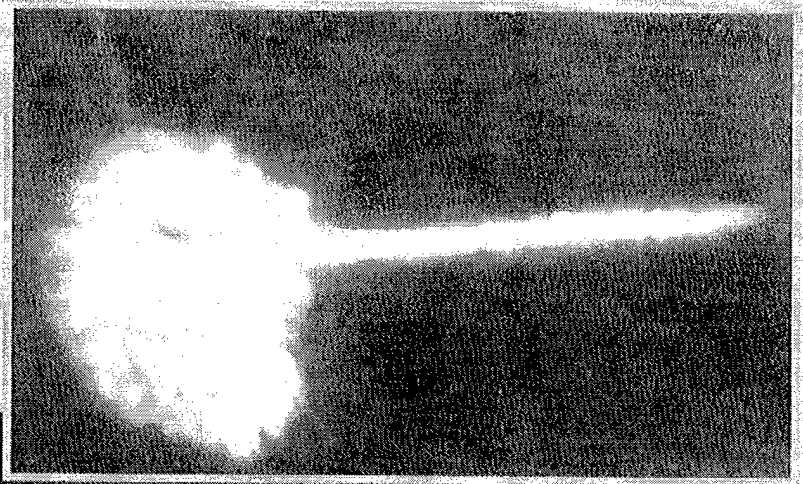
Body style:	6-wheel, armored-collective protection
Engine:	V8 Diesel—320 hp
Weight:	XM93: 18.7 ton; XM93E1: 20.2 ton
Speed:	65 mph
Range:	500 mi
Crew:	XM93: 4 soldiers; XM93E1: 3 soldiers

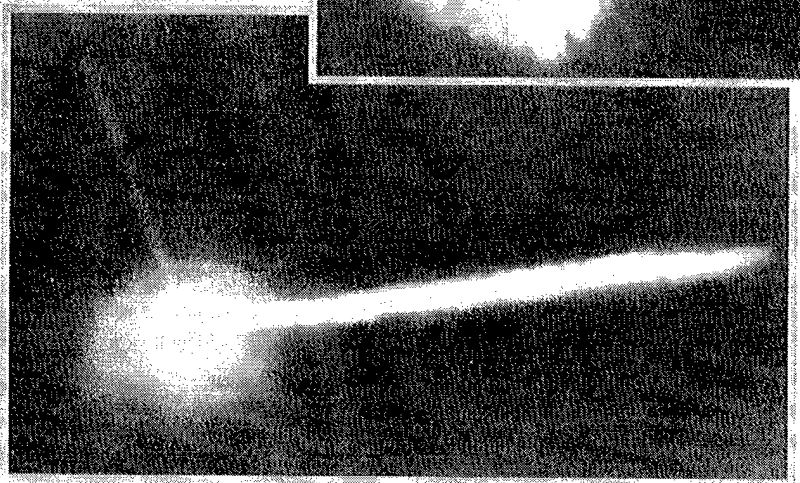
FOREIGN COUNTERPART: Russia: BRDM-ZRKH, MTLB, RKHM, UAZ-469RKH. China also has a NBC reconnaissance vehicle.

PROGRAM STATUS: The NBCRS is a Non-Developmental Item (NDI) program consisting of four phases: (1) Proposal Evaluation and Shoot-Off phase, during which proposals were evaluated, competition conducted, and a winner selected. General Dynamics Land Systems was selected to complete all additional phases. (2) Interim System Production phase for the XM93, which provided 48 contractor-supported systems for urgent fielding. Additionally, the German Government donated 60 German XM93 NBCRS to the U.S. Government in support of Operation Desert Storm (ODS). Following ODS, all systems were redeployed worldwide to U.S. Army and Marine Corps forces. (3) System Improvement phase to design, fabricate, and test the XM93E1 NBCRS which satisfies all Required Operational Capabilities (ROC) requirements; and (4) A Block I modification program to upgrade all XM93 NBCRSs to the M93A1 configuration.

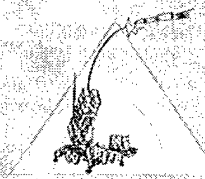
PROJECTED ACTIVITIES: Production Qualification Testing is scheduled for September 1997.
First Unit Equipped with the new M93A1 in March 1998.

PRIME CONTRACTOR: General Dynamics (Land Systems Division) (Detroit, MI)
Thyssen Henschel (Germany)





Guided Flight Test 3
15 February 1994
Bulk Warhead
Chemical (Simulant)



Protect The Force

MISSION: The Patriot Missile System provides high- and medium-altitude defense against aircraft and tactical ballistic missiles. PAC-3 missile will provide an advanced anti-tactical missile capability to the current fielded system.

CHARACTERISTICS: The combat element of the Patriot Missile System is the fire unit, which consists of a radar set, an engagement control station (ECS), equipment powerplant (EPP), an antenna mast group (AMG), and eight remotely located launchers. The single-phased-array radar provides all tactical functions of airspace surveillance, target detection and track, and missile guidance. The ECS provides the human interface for command and control of operations. Each firing battery launcher currently contains four ready-to-fire missiles, sealed in canisters, which serve a dual purpose as shipping containers and launch tubes. Patriot's fast reaction capability, high firepower, ability to track 50 targets simultaneously with a maximum range of 37 nautical miles, and the ability to operate in a severe electronic countermeasures environment are features not available in previous air defense systems. The PAC-3 upgrade program will incorporate up to 16 advanced hit-to-kill missiles into three to four of the eight launchers per firing battery, thus increasing fire power and ballistic missile defense capabilities. The primary mission of the PAC-3 missile is to kill both maneuvering and non-maneuvering tactical ballistic missiles. The PAC-3 missile will also have a capability to counter cruise missiles and aircraft.

FOREIGN COUNTERPART: Russia: SA-10 and SA-12

PROGRAM STATUS: Patriot has completed fielding to U.S. forces and is deployed in CONUS, Europe, Korea, and Southwest Asia. U.S. missile production deliveries include Patriot Anti-Tactical Missile (ATM) Capability-Level 2 (PAC-2). The Patriot Advanced Capability-3 (PAC-3) comprises system improvements that will result in a time-phased series of system hardware and software changes designed to improve performance against an evolving threat, meet user needs, and correct existing system deficiencies in a timely, affordable manner. Germany, the Netherlands, Italy, Japan, Saudi Arabia, Kuwait, and Israel are currently participating in Patriot acquisition programs. Discussions with other interested allies for Patriot acquisition are ongoing.

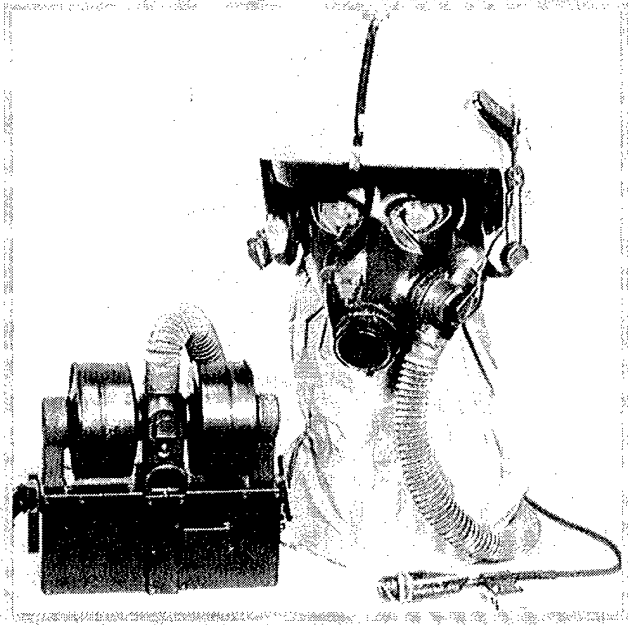
PROJECTED ACTIVITIES: The PAC-3 missile, a key component of overall system improvements, has entered Engineering and Manufacturing Development (EMD). The Radar Enhancement Phase III Production Decision is scheduled to occur by 2QFY96. Classification Determination Identification Limited Procurement Authority decision is scheduled to occur in 2QFY96.

PRIME CONTRACTOR: Raytheon (Bedford, MA)
Loral (Loral Vought Systems) (Grand Prairie, TX)

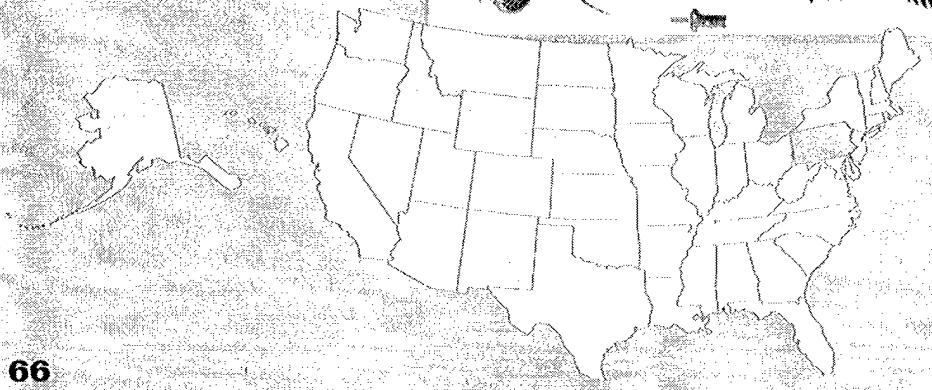
* See appendix for list of subcontractors.

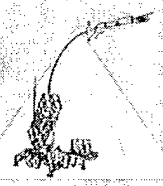
M42 Chemical/Biological Combat Vehicle Masks

M40 Chemical/Biological Field Mask



M43 Aviator Mask





Protect The Force

MISSION: The M40 series masks provide respiratory, eye, and face protection against toxic agents. The XM45 mask will provide rotary wing aircrewmen with a less burdensome mask.

CHARACTERISTICS: The M40, M42 and XM45 masks, which comprise the M40 series, have a silicone rubber facepiece with in-turned periphery, binocular eye lens system, and elastic head harness. The M40 series is designed to protect the wearer against chemical/biological (CB) agents, toxins, radioactive fallout particles, and battlefield contaminants. The M40 is the CB field mask that replaces the M17 series and M9 series masks. Surety sites use the M40 with special Toxic Agent Protection (TAP) hood. The M42 is the CB combat vehicle mask, which replaces the M25 series. The M40 series mask features include front and side voicemitters, drink tube, clear and tinted outserts, and a filter canister with NATO-standard threads. The canister on the M42 combat vehicle crewman mask is attached to the end of a hose and has an adapter for connection to the Gas Particulate Filter Unit. The M42 also has a built-in microphone for wire communication. The M40 and M42 masks are issued with a butyl-coated fabric hood to protect the wearers' head and neck areas. The M40 special-purpose hood is a heavyweight, butyl-coated fabric with a double skirt and is compatible with the M3 TAP suit. M40A1 and M42A2 masks have a quick-doff hood/second skin for enhanced durability and comfort. The M42A2 also utilizes an external, detachable, microphone.

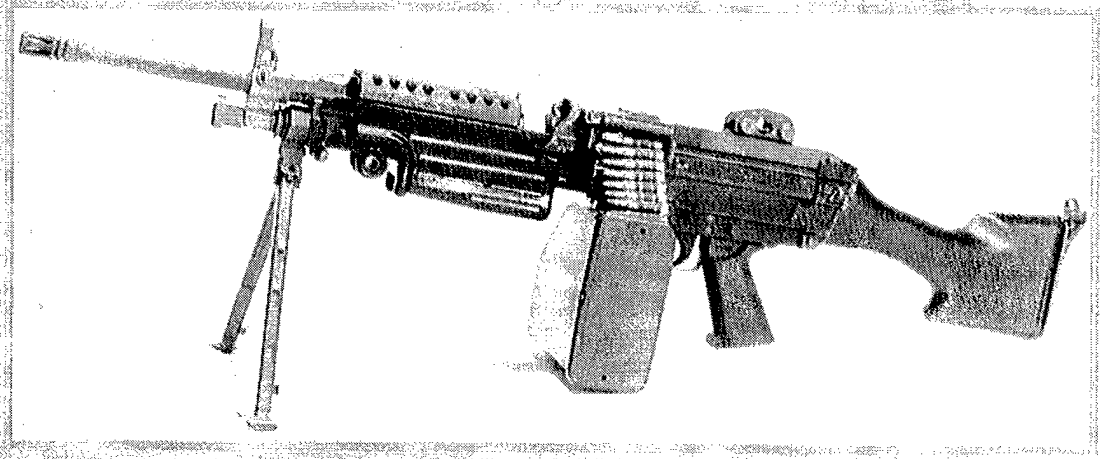
FOREIGN COUNTERPART: Britain: S10

PROGRAM STATUS: Production of both M40 and M42 masks is currently ongoing at both ILC and MSA facilities. Fielding is complete at Army Materiel Command (AMC) surety sites. FORSCOM and other Major Commands (MACOM) will be completed by June 1996.

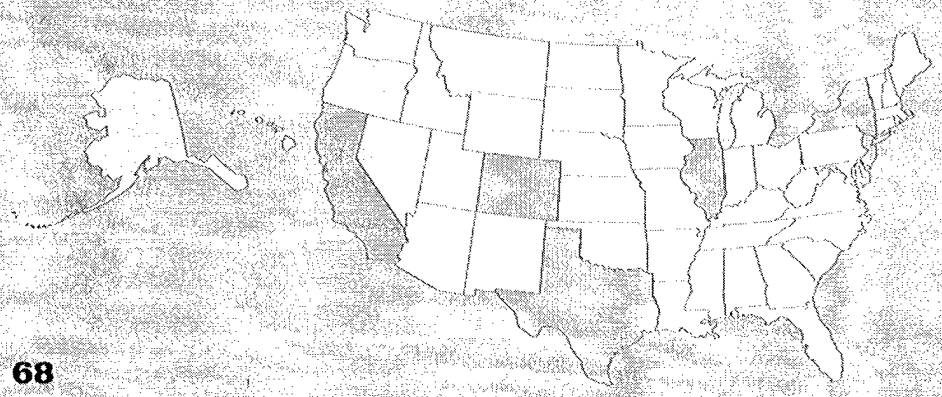
PROJECTED ACTIVITIES: Conduct developmental activities and testing of the XM45 aircrew mask.

PRIME CONTRACTOR: ILC Dover (Dover, DE)
Mine Safety Appliance (Pittsburgh, PA)

Laser Eye Protection (SPECS)



M249 Assault Pack



Protect The Force

MISSION: The soldier system's mission is to provide the soldier with everything he wears, carries, and consumes in combat.

CHARACTERISTICS: The soldier system includes improved individual equipment, weapons, clothing, C^4I, and subsistence items, to enhance his overall effectiveness and survivability on the battlefield. Soldier system items include several related programs that respond to changing threat requirements and advances in state-of-the-art technology.

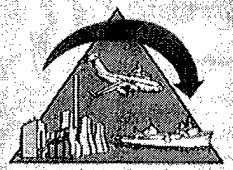
Soldier Modernization provides a cohesive plan for the coordinated development of soldier system items and is the roadmap for near-term, mid-term, and far-term efforts. In the near term, one key element of the soldier support and modernization process is the Soldier Enhancement Program (SEP). SEP projects are primarily modified non-developmental items and are focused in four general areas: weapons and munitions, combat clothing and individual equipment (CIE), communications and navigation aids, and food/water and shelter. SEP projects include Enhanced Load Bearing Vest, Inconspicuous Body Armor, Second Generation Extended Cold Weather Clothing System (ECWCS), Armor Crew/Infantry Protective Mask, Medium Machine Gun, Modular Weapon System, M249 Vehicle Mount, Fighting Position Excavator, Lightweight Video Reconnaissance System, Lightweight Leader Computer, Monocular Night Vision Device, Stabilized Binoculars, Individual Soldier Enhanced Ration, and Small Unit Shower. Mid-term research and development CIE efforts are focused on the design of lighter-weight equipment, ballistic and laser eye protection, and improved chemical protective clothing that takes advantage of the latest technology and advanced materials. These efforts concentrate on Self-Contained Toxic Environmental Protective Outfit (STEPO), Joint Service Lightweight Integrated Chemical Suit Technology (JSLIST), and improved laser eye protection. Other key elements include the Land Warrior (LW), Air Warrior (AW), and Mounted Warrior (MW) systems. LW is a first generation integrated fighting system for dismounted combat soldiers. It enhances soldiers' battlefield capabilities through the development and integration of Army components and technologies into a cohesive, timely, and cost-effective system. LW subsystems include an individual soldier radio/computer, with embedded global positioning system (GPS), and communications system; enhancements to CIE; integrated headgear with heads-up display and image intensifier; improved chemical/biological mask; and modular weapon system with thermal sight, infrared laser aiming light, and laser rangefinder/digital compass. Similar efforts have been started for mounted and air crew personnel. AW and MW efforts are being defined. Far-term efforts include the 21st Century Land Warrior (21CLW), which will identify less mature technologies to meet longer-term soldier deficiencies. Emphasis will be on the design of lightweight equipment and high technology areas in computer, communications, and night vision devices.

PROGRAM STATUS: There are approximately 100 – 125 projects per year in various stages of R&D for the Soldier System (CIE/SEP/Land Warrior). Land Warrior (LW) reached a Milestone I/II on 26 August 1994 and awarded an R&D contract to Hughes Aircraft Co. on 11 July 1995. Mounted Warrior MNS was approved 10 April 1995. Air Warrior MNS was approved 25 July 1995.

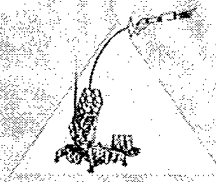
PROJECTED ACTIVITIES: In CIE/SEP, there will be about twenty-five items type classified, 15 items transitioning to production, and 19 items in production. Mounted Warrior is currently unfunded in FY96. SSCOM will conduct Milestone 0 in 1QFY96. Air Warrior will complete simulation tests to document the current equipment baseline and will complete trade studies designed to define requirements.

PRIME CONTRACTOR:

SARCO (Sterling, NJ)
CAPCO, Inc. (Grand Junction, CO)
DECILOG (Melville, NY)
General Motors Corp. (Hughes Acft. Co.) (El Segundo, CA)
Texas Instruments (San Antonio, TX)
Olin (East Alton, IL)



Project & Sustain



Protect The Force

MISSION: Stinger is the short-range air defense missile for combat units on the ground and providing close air support.

CHARACTERISTICS: Stinger is a fire and forget infrared missile system which can be fired from a number of ground to air and rotary wing platforms. This missile homes in on the heat emitted by either jet or propeller-driven, fixed wing aircraft or helicopters. The Stinger system employs a proportional navigation system that allows it to fly an intercept course to the target. Once the missile has traveled a safe distance from the gunner, its main engine ignites and propels it to the target. The Stinger program has evolved from the redeye, to Stinger Basic, followed by Stinger Post, then Stinger Reprogrammable Microprocessor (Stinger RMP), and finally an upgrade to Stinger Block 1. To overcome targets in clutter, funds have been provided in FY95-96 to develop the Stinger Block 2 with the focal plane array seeker. The Stinger RMP and Stinger Block 1 provide enhanced countermeasures capability. Stinger has been fielded on MANPADS, Avenger, Kiowa Warrior, Bradley Stinger Fighting Vehicle-Enhanced (BSFV-E) and LAV-AD.

Guidance:	Passive infrared and ultraviolet homing
Speed:	Supersonic
Navigation:	Proportional with lead bias
Weight:	34.5 lb
Diameter:	2.75 in
Length:	60 in

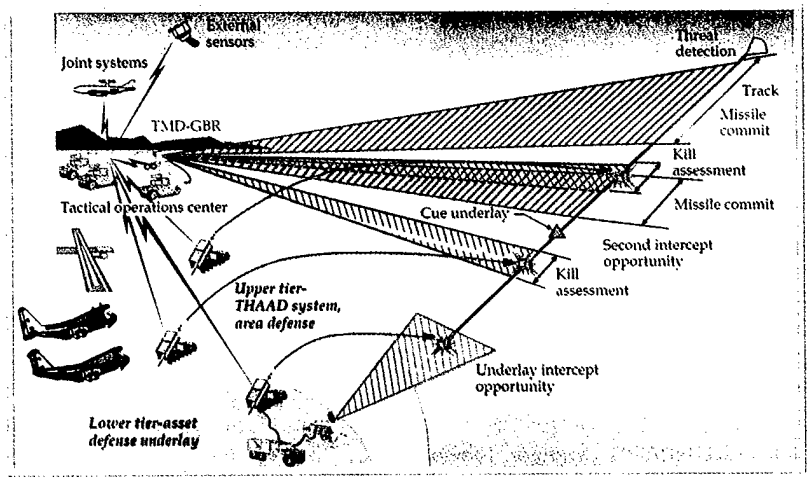
FOREIGN COUNTERPART: Russia: SA-7, SA-14, and SA-16 Britain: Blowpipe, Javelin
Sweden: RBS-70

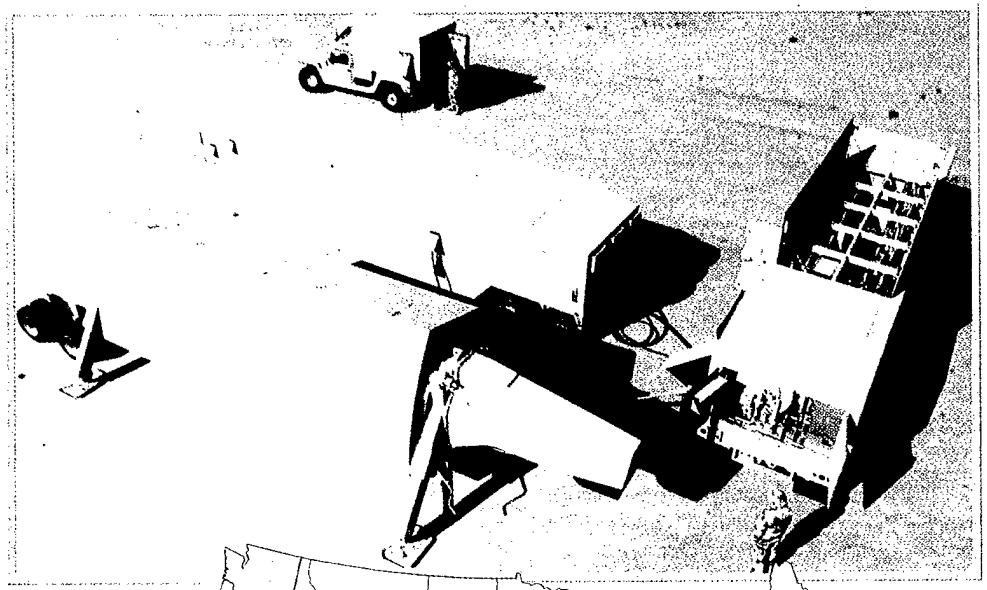
PROGRAM STATUS: Stinger-RMP is currently being upgraded to Stinger Block 1. The first Stinger Block 1 was fielded in November 1995. Stinger-RMP entered development in September 1984; transitioned to production in November 1985, and initial deliveries began in FY89; fielding began in FY90. Stinger-RMP production was accelerated to meet Desert Shield/Storm requirements. Further improvements to Stinger-RMP performance have been developed under a Block 1 product improvement program which started in FY94 with fielding scheduled for FY96. The Army has initiated the Block 1 Stinger improvement program to extend the service life and develop improvements to increase accuracy and resistance to countermeasures, effectiveness against low observable targets (UAVs and cruise missiles) and standoff helicopters in clutter, and to eliminate the need for super-elevation (a safety hazard when Stinger is fired from a hovering helicopter). In early development is the Stinger Block 2 with focal plane array seeker which increases the target acquisition of the seeker against a target in clutter.

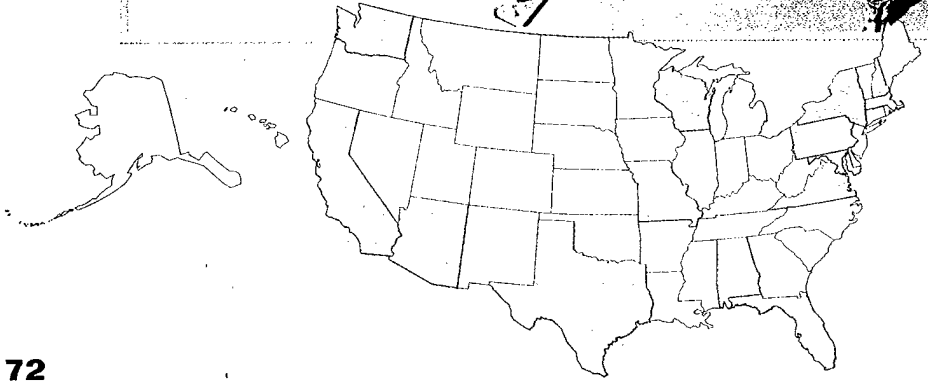
PROJECTED ACTIVITIES: From the good results obtained in the FY95 tech base effort, the Army plans to continue with a technology demonstration phase on the Stinger Block 2 focal plane array seeker in FY96. The Stinger Block 1 modification program will continue.

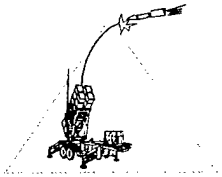
PRIME CONTRACTOR: General Motors Corp. (Hughes Aircraft Company) (Tucson, AZ; Pomona, CA; Farmington, NM)

* See appendix for list of subcontractors.









Protect The Force

MISSION: THAAD provides high-altitude air defense of mature and non-mature theaters against tactical ballistic missiles, including weapons of mass destruction.

CHARACTERISTICS: The THAAD system will consist of missiles, launchers, Battle Management/Command, Control, Communication, Computers, and Intelligence (BM/C^4I) elements, radars, and support equipment. The missile will be a hypervelocity, kinetic energy weapon that will ensure destruction of its target by directly colliding with it. The launcher will be a Palletized Loading System (PLS) truck and will have two to three times the firepower of current air defense systems. The BM/C^4I system is the THAAD Tactical Operations Center, which is housed in truck-mounted shelters. These units will interface and coordinate with the Theater Air Defense C^2 system and control THAAD engagement and force operations. The THAAD Radar will perform the critical radar functions of acquisition, track, discrimination, and engagement assessment. The THAAD System will support passive defense and attack operations by providing impact point predictions and launch point estimations. The THAAD system will be fully transportable by current military airlift aircraft. Once arriving in theater, the system will be mobile on unimproved roads and highways. These capabilities will allow THAAD to be rapidly deployed to any theater on short notice and with minimal transport resources.

The THAAD system is a Theater Missile Defense (TMD) weapon system designed to intercept short- and intermediate-range missile threats that increasingly will employ sophisticated warhead technologies. The THAAD system will augment existing and other planned TMD capabilities at a higher altitude. The THAAD system also provides the capability to destroy enemy missiles at ranges and altitudes sufficient to avoid damage due to debris or chemical agent fallout. Because of its hit-to-kill guidance approach, the system provides a high degree of lethality compared to existing systems with fragmentation warheads.

FOREIGN COUNTERPART:

	THAAD	THAAD Radar
France and Italy:	SAAM; SAMP/N; SAMP/T	Russia: Hen House; Dog House; and Try Adds radars
Germany:	MSAM	

PROGRAM STATUS: The THAAD program is currently in the Demonstration and Validation (DEM/VAL) phase. The contract for DEM/VAL was awarded on 4 September 1992. Completion and delivery of a User Operational Evaluation System (UOES) prototype is scheduled for FY97. Three successful flight tests occurred in FY95.

PROJECTED ACTIVITIES: DEM/VAL flight tests will provide interceptor and system data to support the Milestone decision in 1QFY97.

PRIME CONTRACTOR: Lockheed Martin (Lockheed Missiles and Space Co.) (Sunnyvale, CA)—THAAD
Raytheon (Bedford, MA)—THAAD Radar

* See appendix for list of subcontractors.

THE ARMY COMBINED ARMS WEAPON SYSTEM (TACAWS) DEMONSTRATION (94 – 97):

TACAWS will demonstrate lightweight, multi-role missile technology in support of ground-to-ground, ground-to-air, air-to-air, and air-to-ground missions with an emphasis on ground-to-ground technology with a multi-mission growth potential. The missile system demonstration includes the integration of guidance, control, propulsion, airframe, and warhead technologies capable of performing in high clutter/obscurants, adverse weather environments, and countermeasure conditions. Missile control and guidance system technology will explore capabilities such as lock-on before/lock-on after launch, fire and forget, guidance, signal and image processing, and wide band secure RF data links. TACAWS has five primary goals: 1. Superior anti-armor fire and forget lethality in clutter up to 5 kilometers. 2. Ability to engage armored vehicles and suppressed helicopters in clutter at extended ranges. 3. Multi-role capability including ground-to-ground, ground-to-air, air-to-air, and air-to-ground. 4. Multi-platform launch capability from HMMWV, Bradley Fighting Vehicle, RAH-66 Comanche, AH-64 Apache, OH-58D Kiowa Warrior, Avenger, LAV, and AH-1W Cobra. 5. TOW and Hellfire launcher compatible. The program is structured in three phases. Phase I, Concept Evaluation FY92-93 (i.e., design, simulation); Phase II, Technology Demonstration FY94-97 (i.e., 5 missiles fabrication, tower, and captive flight test); and Phase III, Proposed ATD FY99-02 (i.e., platform integration, flight and ground testing). Supports: TOW follow-on.

JOINT COUNTERMINE ADVANCED CONCEPT TECHNOLOGY DEMONSTRATION (ACTD) (95 – 00):

The Joint Countermine ACTD will demonstrate the capability to conduct seamless amphibious operations from sea to land. The demonstration will be accomplished by integrating Army, Navy and Marine Corps technology developments and fielded military equipment. This ACTD will demonstrate the coupling of selected current capabilities with developing capabilities, leading to enhanced integration of joint capabilities to conduct countermine operations. The ACTD will also seek to identify improvements in the capabilities being developed or envisioned.

Demo I in FY97 has an Army lead and will emphasize shallow water and beach/and reconnaissance and breaching. Included in this demo are the Army's Close-in Man Portable Mine Detector (CIMMD) ATD, which uses as integration of infrared sensors and ground penetrating radar to identify both metallic and non-metallic mines, and the Off-Route Smart Mine Clearance (ORSMC) ATD described below. Demo II in FY98 has a Navy lead and will emphasize clandestine surveillance and reconnaissance from sea to land. Supports: All future Army, Navy and Marine Corps countermine systems.

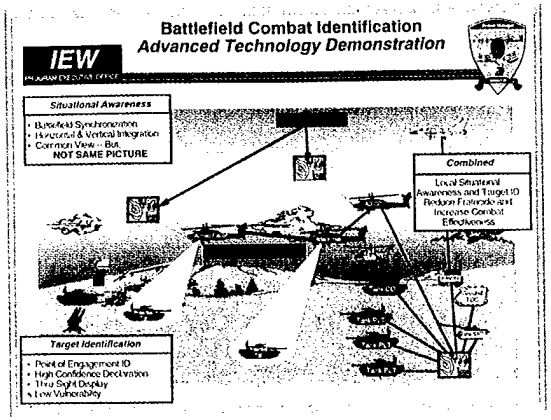
OFF-ROUTE SMART MINE CLEARANCE (ORSMC) ATD (94 – 96):

This ATD will evaluate countermeasure techniques to neutralize smart, stand-off mines and will focus on defeating side attack mines. Advances in sensor and digital signal processing technologies are resulting in the development of a family of mines capable of identifying and attacking targets from ranges of several hundred meters. These side attack mines utilize acoustic and seismic sensors to detect, classify, track, and launch a submunition, typically with its own terminal sensors, toward a target. ORSMC will provide the capability to neutralize this evolving threat by using a remotely controlled vehicle which will serve as a decoy and emulate the acoustic and seismic signatures of combat vehicles and spoof the mines into a premature launch. It will enhance survivability of combat and logistics vehicles in situations ranging from breaching operations to logistical resupply of heavy and light forces. A joint demonstration is planned with the U.S. Marine Corps. Supports: Off-Route Smart Mine Clearance System and Joint Countermine ACTD.

BISTATIC RADAR FOR WEAPONS LOCATION ATD (91 – 96):

This ATD will demonstrate bistatic radar (transmitter and receiver are physically separated) techniques to detect and track mortars, artillery, and rockets for the purpose of weapons location and classification (for counterfire) and fire registration (for battle damage assessment). Bistatic radar is expected to be significantly more survivable than conventional monostatic radars because the covert passive receiver is not located next to the low cost transmitter and will be difficult to locate and/or jam. Supports: Firefinder P3I and TMD Active Defense.

BATTLEFIELD COMBAT IDENTIFICATION (BCID) ATD (93 – 98):



This ATD is aimed at solving the combat identification problem underscored by the lessons learned from Desert Storm. This effort will leverage existing technologies and pursue new technologies to develop and demonstrate technologies for ground-to-ground and air-to-ground battlefield identification. Different approaches will be considered to include both active/cooperative target ID systems for ground vehicles, rotorcraft, and the individual soldier. These systems will be integrated with a situational awareness capability that will be attained through the CAC2 ATD which will provide the information required to create a common picture (display) of the battlefield situation including the position of both friendly and enemy forces. Displayed information will be available at various echelon levels facilitating the distribution of data to reduce friendly casualties while improving command and control. Supports: BCIS and battlefield digitization.

21ST CENTURY LAND WARRIOR (21CLW) INTEGRATED TECHNOLOGY PROGRAM:

The 21st Century Land Warrior represents the dismounted force of the future. It will provide the individual combatant's link to the digitized force, enhancing the survivability and lethality of the individual and small unit through total situational awareness, automated target hand-over and numerous other enhanced capabilities integrated into the 21CLW system. Linking the individual into the digital net will also have significant impact on enhancing force effectiveness.

The core of the system is the Generation II Soldier System (Gen II), the integrating platform for 21CLW. All components of the 21CLW system interface with, or integrate in, one or more of the GEN II subsystems. In addition to GEN II, 21CLW is comprised of the Objective Individual Combat Weapon (OICW), the USMC Forward Observer/Forward Air Controller (FO/FAC), the Integrated Sight Module (ISM), the Multi-Purpose Individual Munition (MPIM), the Advanced Image Intensifier (AI2), the High Resolution Display System (HRDS), the In-stride Mine Avoidance System (IMAS), Combat Identification for the Dismounted Soldier (CIDS), and Individual Soldier Power. As with the modular, interoperable components of GEN II, the modularity of the 21CLW components allow for task organization and mission tailoring to maximize the unit's capabilities and effectiveness.

Modeling and simulation efforts are underway to support the analysis of soldier and mission performance given the capabilities of the 21CLW system. In addition, modeling and simulation is supporting the development of the operational concepts and tactics, techniques and procedures (TTPs) to optimize the tactical employment of the system.

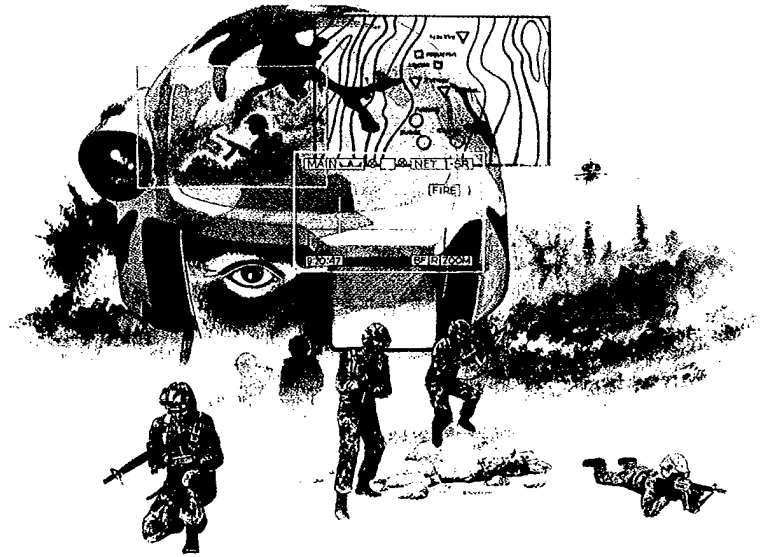
The joint Army/USMC 21CLW program will culminate in FY98 with an eight month training and demonstration phase including iterative field exercises and simulations. The programs within 21CLW are heavily leveraging advances in commercial microelectronics and telecommunications in the development of the miniaturized, rugged, modular system components. Coupled with this is the extensive use of Integrated Product and Process Development (IPPD) to improve the affordability and producibility of these advanced soldier system components. 21CLW will allow the individual soldier, marine and special operations forces operator to augment his warfighting capabilities to achieve maximum synergy between human and equipment performance to his greatest tactical advantage. These enhanced combatants, as an interactive element of the digital battlefield, will add dramatically to our total force effectiveness.

GENERATION II SOLDIER (GEN II) ATD (94 – 98):

The 21st-century land warrior and the Gen II ATD will have rugged, miniaturized command, control, communications, computer, and intelligence (C4I) electronic components networked to a soldier's tactical computer; high resolution helmet-mounted displays to view computer and sensor imagery; a wide field-of-view night vision sensor; an integrated sight with a thermal imager; digital compass and mini-laser rangefinder coupled with an improved individual weapon using airburst and kinetic energy rounds; combat identification and personnel status monitoring; small arms ballistic protection; signature suppression; and compatibility with other individual equipment and weapons.

The aggregation of these components will provide the individual combatant with enhanced situational awareness; automated and accurate target hand-over; near-real-time battlefield intelligence (video capture); integrated position/navigation; digital maps/overlays; secure voice-controlled intra/inter-squad voice/data communications; automated personnel status monitoring, combat identification, and chemical/biological detection; in-stride mine avoidance; small arms ballistic protection; unexposed firing/viewing; ability to defeat defilade targets; enhanced maneuverability at night, route/mission planning, information management (reports, ops orders, fragmentary orders); and embedded mission rehearsal.

The modular, interoperable system components will provide operational flexibility in task organization to optimize unit performance without overloading any individual combatant, as well as technological flexibility for insertion of new and emerging technologies to readily upgrade system capabilities. Integrated product and process development is embedded in the program to achieve maximum system performance and affordability. Supports: Enhanced Land Warrior and U.S. Marine Corps.



OBJECTIVE INDIVIDUAL COMBAT WEAPON (OICW) ATD (98 – 99):

The Objective Individual Combat Weapon ATD will demonstrate a potential replacement for the 5.56 mm M16 family of rifles and the 40 mm M203 grenade launcher. Its goal is to dramatically improve the probability of hit, lethality and versatility in all operational environments. Weapons concepts being pursued by two competing contractors, AAI Corporation and Alliant Techsystems, both feature a revolutionary, ergonomically designed and integrated weapon system, coupling the firepower of 20 mm air bursting and 5.56 mm kinetic energy projectiles. These concepts have become feasible because of recent advances in miniaturized fuzing and modular, optoelectronic fire control systems. The bursting munition capability allows a soldier to attack personnel that are in defilade, such as in or behind structures as one might encounter in urban combat. Application of controlled air-bursting munitions will provide decisive target effects, providing a new, currently unavailable capability to our troops for peacekeeping, peace enforcement, counter terrorism, and surgical strike missions. The 5.56 mm kinetic energy weapon provides direct fire and suppressive fire capabilities. The OICW is featured as the individual weapon for the Generation II Soldier ATD and for the 21st Century Land Warrior program. It will be demonstrated for the Generation II Soldier in a non-firing Dismounted Battlespace Battle Lab experiment in 1998. The following year, another battle lab experiment at Fort Benning will include safety certified weapons and live-fire demonstrations.

ADVANCED IMAGE INTENSIFICATION (I2) ATD (93 – 96):

This ATD will demonstrate the next generation night vision goggle to enhance operational effectiveness/safety and reduce workload for Army aviators (pilotage) and dismounted soldiers (night vision). The Advanced I2 ATD will exploit technology advances in display and intensifier technologies as well as image intensification, optics, and human factors research. The goal of this effort is to provide significantly increased visual acuity and field of view, integrated symbology, and improved user interface. Supports: Existing cargo and utility aircraft, Special Operations aircraft and the dismounted soldier (21st Century Land Warrior).

NBC SCIENCE AND TECHNOLOGY PROGRAM:

The Nuclear, Biological, Chemical (NBC) defense science and technology program includes materiel for individual physical and medical protection, collective protection, and contamination avoidance. Individual protective equipment will offer increased respiratory protection against current and emerging NBC threats while providing improved weapons systems interface and minimizing the physiological burden imposed by NBC protective equipment. Medical chemical-biological defenses will provide new pretreatments for nerve agents, topical skin protectants for vesicants, new vaccines for biological threats, and novel therapies for chemical and biological threats. Improved casualty care practices doctrine will increase the return-to-duty rate, thus adding to force sustainment. The emphasis on the contamination avoidance component of NBC defense includes development of multi-agent sensors and stand-off detectors to provide real-time detection and identification of chemical and biological agents. In addition, detectors will be more compact so they may be placed on a variety of platforms and will not have large space and power requirements.

INTEGRATED BIODETECTION ATD (96 – 99):

This ATD will design, fabricate, integrate and demonstrate state-of-the-art point and standoff biodetection technologies into a battlefield detection system. Point biosensors with enhanced reliability, stability, sensitivity, specificity and response times are planned for incorporation into the Army Biological Integrated Detection System and the Joint Service Biological Point Detection System. Standoff biological agent cloud detection and mapping will be accomplished using active laser detection and ranging at 5-50 km with such enhancements as multiwavelength UV-excitation and lightweight LIDAR systems for cloud tracking. Battlefield simulation and agent simulant outdoor field trials will demonstrate the ability of an integrated biological detection system to limit the effects of large area coverage biological agent attacks on U.S. Forces at the operational level of war.

MEDICAL RESEARCH AND DEVELOPMENT:

1. Advanced Technology. The Commander, U.S. Army Medical Research and Materiel Command (USAMRMC), is the Army Medical Commands chief technology officer. He is responsible for enhancing battlefield medical care by adapting new technologies that will significantly reduce deaths on the battlefield through the projection of life-saving medical expertise to the front lines. These technologies will enhance the delivery of care at each echelon of the field medical care system by providing vastly enhanced communication links for diagnostic consultation between deployed physicians and specialty experts in the United States.

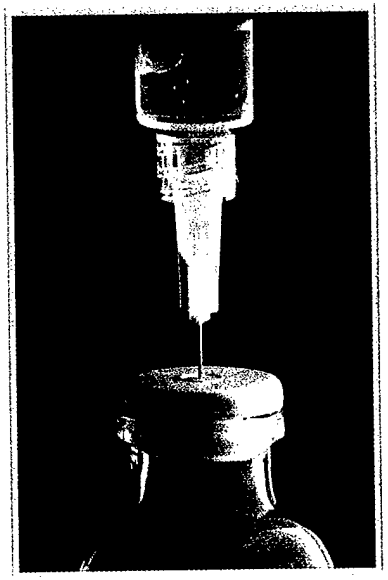
   The USAMRMC's Medical Advanced Technology Management Office (MATMO) has coordinated deployments of telemedicine technology in support of US forces in Macedonia, Croatia and Haiti. This technology has been incorporated into Advanced Warfighter Experiment (AWE) Demonstrations of the Army's digitized battlefield for the 21st century. Advances in Army medicine have thus been fully integrated into the broader Army vision of a digital future.

2. Infectious Diseases. The first vaccine for hepatitis A was recently licensed by the U.S. Food and Drug Administration. Medical researchers assigned to the U.S. Army Medical Research and Materiel Command s Walter Reed Army Institute of Research conducted the large-scale clinical trials that made licensure possible. Army participation in the lengthy process of approving the new vaccine helps to insure the availability of the promising new product for future soldiers deploying to areas of the world in which hepatitis A is an endemic disease threat.

   Researchers at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) at Fort Detrick, MD, while continuing to develop improved medical countermeasures to classical biological warfare agents, have increased their efforts in global surveillance of new and emerging infectious diseases. Recent outbreaks of hantavirus in the United States and Ebola virus in Zaire have served to remind military and civilian medical communities of the importance of disease surveillance. USAMRIID scientists collaborate on a continuing basis with colleagues at the World Health Organization, the U.S. Centers for Disease Control and Prevention, and other agencies, to monitor emerging threats. USAMRIID is also involved in basic research efforts to develop preventative products to protect military personnel from these new threats.

3. Combat Casualty Care. Pilot lot production of purified hemoglobin for blood substitute research has resumed at the Walter Reed Army Institute of Research. The production facility was temporarily mothballed during the relocation of the blood research program from the Letterman Army Institute of Research. Research also continues on cell cultures in microgravity, using the Space Shuttle as a platform. These studies hold promise for future advances in wound healing.

   Both the Combat Casualty Care Research Program and the Operational Medicine Research Programs have established closer ties to the Soldier Systems Command, outlining medical interfaces with and medical components of the 21st Century Land Warrior.

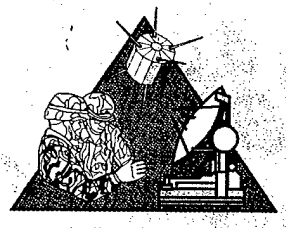


4. Persian Gulf Illness. The USAMRMC is investigating possible causes of Persian Gulf-related illnesses on several fronts. The USAMRMC supported a toxicological study of three chemicals used in protective products during the Gulf War. Deet, the active ingredient in the Army's insect repellent; permethrin, a pesticide applied to military uniforms which supplements the repellent formulation applied to the skin; and pyridostigmine bromide, a drug used as a pretreatment for protection from chemical warfare agents, were studied in the test. The purpose of the toxicological study was to assess the toxicity of the three chemicals individually, and in combination. The study establishes that there is some synergy, or enhanced toxicity of the products when combined, but at exposure levels far above those resulting from normal, recommended use.

   The USAMRMC has published requests for proposals for research on Persian Gulf Illnesses, as a result of a Congressional appropriation of $5 million for research on these illnesses. The USAMRMC is managing the research, which will be conducted by non-federal agencies. Proposals will be peer-reviewed by expert panels, and research grants will be awarded based on the merits of the proposals.

5. Special Interest Programs. The USAMRMC continues to manage Congressionally-mandated research programs in breast cancer and women s health. The Breast Cancer Research Program awarded approximately 450 grants and contracts with FY 1993 and 1994 funds. Proposals are now being evaluated for additional research to be supported by a third appropriation for breast cancer research from the 1995 budget.

   The Defense Women's Health Research Program investigates health problems commonly encountered by military women. Appropriations of $40 million from the FY 94 and 95 budgets are supporting a variety of in-house military and contractor research efforts. This program is consistent with a trend in civilian medical research to balance the traditional focus of medical research on male subjects by directing more research at women and women's health issues.



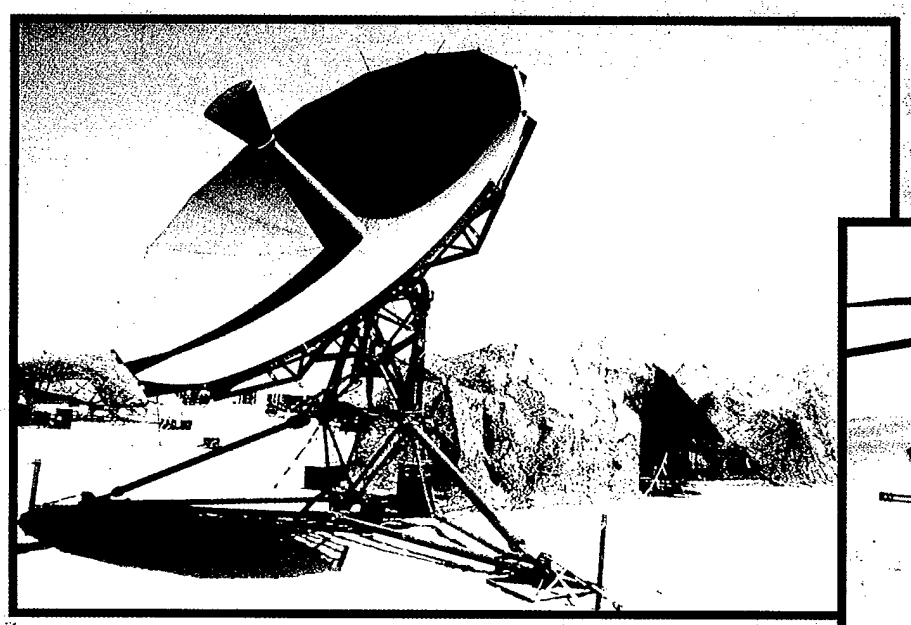
Information is power. On the battlefield, information is deadly power. The Army approach to information warfare emphasizes both offense and defense. The Army of tomorrow will deny information to the enemy through secure communications and direct attack against enemy Command, Control, Communications, Computers and Intelligence (C4I) assets. The Army in conjunction with the other services will also expand its own C4I assets. This will give all U.S. forces a complete picture of the battlefield and securely transmit that picture to all units. As part of this effort, the Army is building the Army Battle Command System (ABCS), a seamless, secure and adaptable information architecture that will link battle commanders at all echelons. Most of the systems listed in this section are components of ABCS. Winning the Information War is about gathering as much information as possible on the enemy (e.g. numbers and types of vehicles, units and command centers) and on your own forces and then moving that information to the soldiers that can act on it, be they a transportation company or an armored battalion.

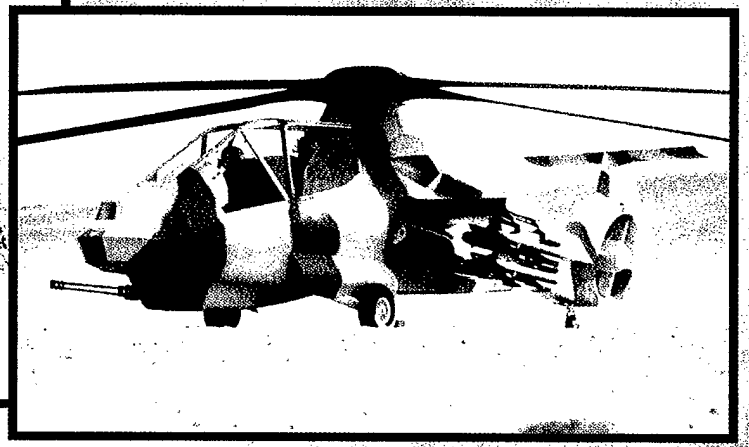
In order to build that complete picture of the theater, the Army must acquire a new range of information systems. The first elements to acquire are the intelligence and sensor systems that will gather all the information about the enemy and about friendly forces as well. The Guardrail/Common Sensor (GR/CS), the Ground Based Common Sensor (GBCS), the Tactical Unmanned Aerial Vehicle (UAV), and Trackwolf are a few of the systems that will gather the information. Other platforms like the Comanche helicopter will figure prominently in intelligence gathering through an armed reconnaissance role. A subset of this category includes the systems that highlight information about friendly forces. As an example, the NAVSTAR Global Positioning System (GPS) receivers provide precise location data to soldiers for targeting and navigation.

The second element of a new information architecture are the communications systems needed to move data securely and rapidly from point to point. In this category are systems like the Single Channel Ground Air Radio System (SINCGARS), Digital Transmission Assemblages, Circuit Switches/Message Switches, Mobile Subscriber Equipment (MSE) and Satellite Communications (SATCOM). These systems create a powerful network that will permit the movement of large amounts of data from any source to any soldier.

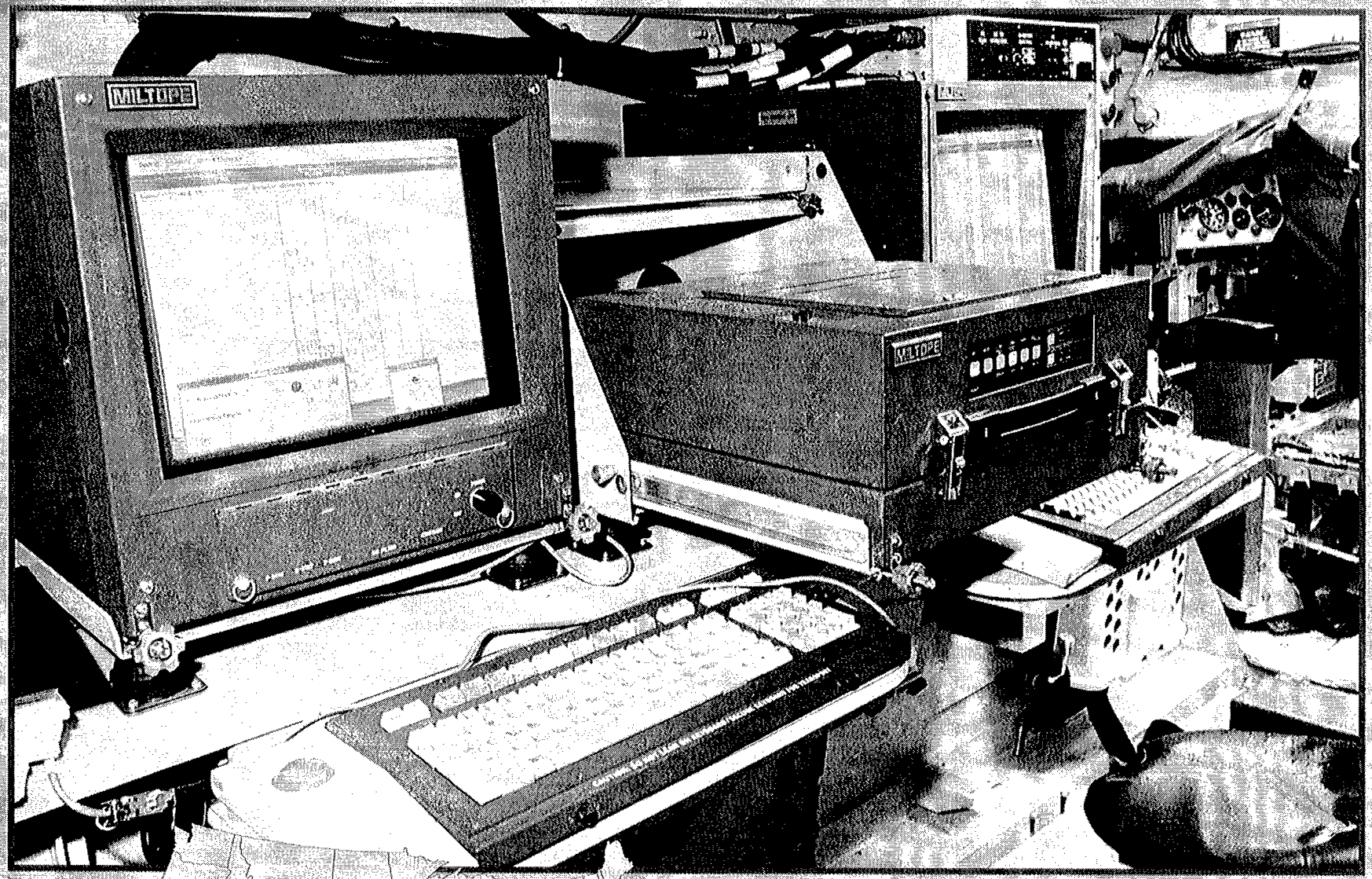
The final element is the computer hardware and software that will process the raw data into usable products. The systems in the first two categories will greatly increase the amount of information available to every soldier in the field. New computer systems are needed to manage the increased flow of information. Common Hardware and Software (CHS) and the Standard Army Management Information System (STAMIS) will ensure that the Army Information architecture remains compatible and interchangeable. Advanced software systems, like the Army Data Distribution System (ADDS), the Advanced Field Artillery Tactical Data System (AFATDS) and the All Source Analysis System (ASAS) will provide the means for analyzing and using the data. These are the systems that the soldiers will use to determine their next priority per the commander's intent.

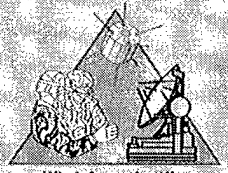
The entire package of systems will create an Army that will be able to gain Information Dominance over any enemy. Tomorrow's Army will have unprecedented awareness of its own situation and needs and be able to acquire much more information about the enemy in terms of strength, location and intent. Commanders will be able to move resources (be they supplies or combat units) to where they can have the greatest impact on the battle. The Army seeks to provide its commanders and soldiers with total situational awareness, such that they will dominate the battlefield.



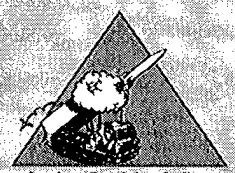


TECHNOLOGY	CONCEPT	DEM/VAL	EMD	DEPLOY	SUPPORT
Battlefield Visualization ATD	Comanche	Advanced Field Artillery Tactical Data System (AFATDS)	Airborne Reconnaissance Low (ARL)	Circuit Switch and Message Switch
Combined Arms Command and Control (CAC2) ATD		Advanced Quick Fix (AQF)	Army Data Distribution System (ADDS)	Digital Transmission Assemblages
Digital Battlefield Communications ATD		All Source Analysis System (ASAS)	Common Hardware/Software (CHS)	Mobile Subscriber Equipment (MSE)
Information Distribution Technology Demonstration		Army Global Command and Control System (AGCCS)	Enhanced Trackwolf (ET)	Single Channel Ground and Airborne Radio System (SINCGARS)
Tactical Unmanned Aerial Vehicle (UAV)		Forward Area Air Defense Command, Control and Intelligene ($FAADC^2I$)	Guardrail/Common Sensor (GR/CS)	
		Ground-Based Common Sensor (GBCS)	Joint Tactical Trminal (JTT)	
		Integrated System Control (ISYSCON)	NAVSTAR Global Positioning System (GPS)	
		Joint Surv eillance Target Attack Radat System Ground Station Module (JSTARS GSM)	Satellite Communications (SATCOM)	
		Maneuver Control System (MCS)	Standardized Integrated Command Post System (SICPS)	
		Milstar (Army)		

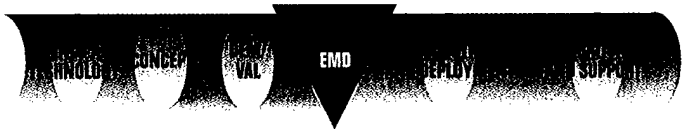




Win Information War



Conduct Precision Strikes



MISSION: The AFATDS provides the multiservice (Army/Marine Corps) automated Fire Support Command, Control, and Coordination portion of the Army Battle Command System (ABCS) and supports the close and deep battle.

CHARACTERISTICS: The AFATDS will provide integrated, automated support for planning, coordinating and controlling all fire support assets (field artillery, mortars, close air support, naval gunfire, attack helicopter, and offensive electronic warfare) and for executing counterfire, interdiction, and suppression of enemy targets for close and deep operations. The AFATDS will receive the Air Tasking Order from CTAPS and automatically process it for use in fire support operations. The AFATDS uses non-developmental, ruggedized, Common Hardware/Software (CHS) including Common Operating Environment/Global Command and Control System. The AFATDS software is being developed in modular, object-oriented Ada computer code. Each successive version implements additional functionality and interoperability. The system will fully automate 321 fire support tasks.

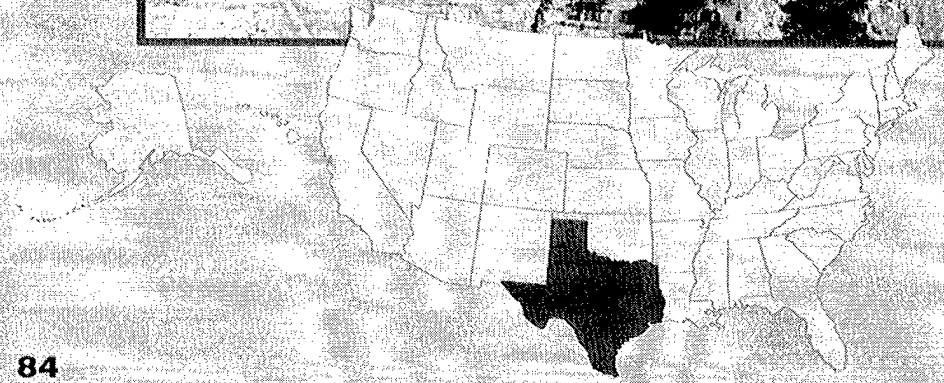
FOREIGN COUNTERPART: AFATDS will continue to improve interoperability with United Kingdom, French, and German Fire Support systems.

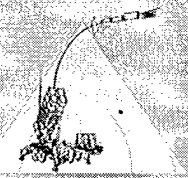
PROGRAM STATUS: Version 1 detailed design, coding, integration and testing are completed. Version 1 Initial Operational Test and Evaluation (IOTE) was conducted with the Ist Cavalry Division in 4QFY95. Version 2 development is ongoing. Milestone III occurred in 1QFY96.

PROJECTED ACTIVITIES: Began fielding units 2QFY96.
Participate in Task Force XXI.
Version 2 Software Acceptance Testing - 1997.

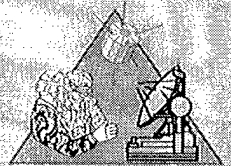
PRIME CONTRACTOR: Magnavox (Ft. Wayne, IN)

*See appendix for list of subcontractors.

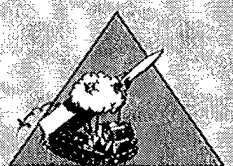




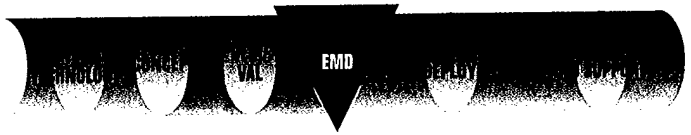
Protect The Force



Win Information War



Conduct Precision Strikes



MISSION: The Advanced Quick Fix (AQF) is a signal-intercept and precision emitter-location system that intercepts, identifies, and jams enemy C3I emitters. Leap-ahead technology exploits Communications Intelligence (COMINT) and Electronic Intelligence (ELINT) against enemy Low Probability of Intercept (LPI) and conventional signals.

CHARACTERISTICS: AQF, an intercept and emitter location system, interoperates with the Ground-Based Common Sensor-Light (GBCS-L) and Ground-Based Common Sensor-Heavy (GBCS-H) to provide Division commanders with the capability to intercept, precisely locate, and identify enemy conventional and Low Probability of Intercept (LPI) communications and noncommunications emitters and jam enemy conventional and LPI communications emitters. The AQF is an evolutionary, open architecture system which satisfies the Army's requirement to conduct tactical ground COMINT, ELINT, Electronic Support against enemy communications and radars and Electronic Attack against threat communications; and enhance the commander's ability to outmaneuver and destroy the enemy by locating or jamming threat command and control, fire control, and air defense centers. The AQF uses the EH-60L Blackhawk helicopter.

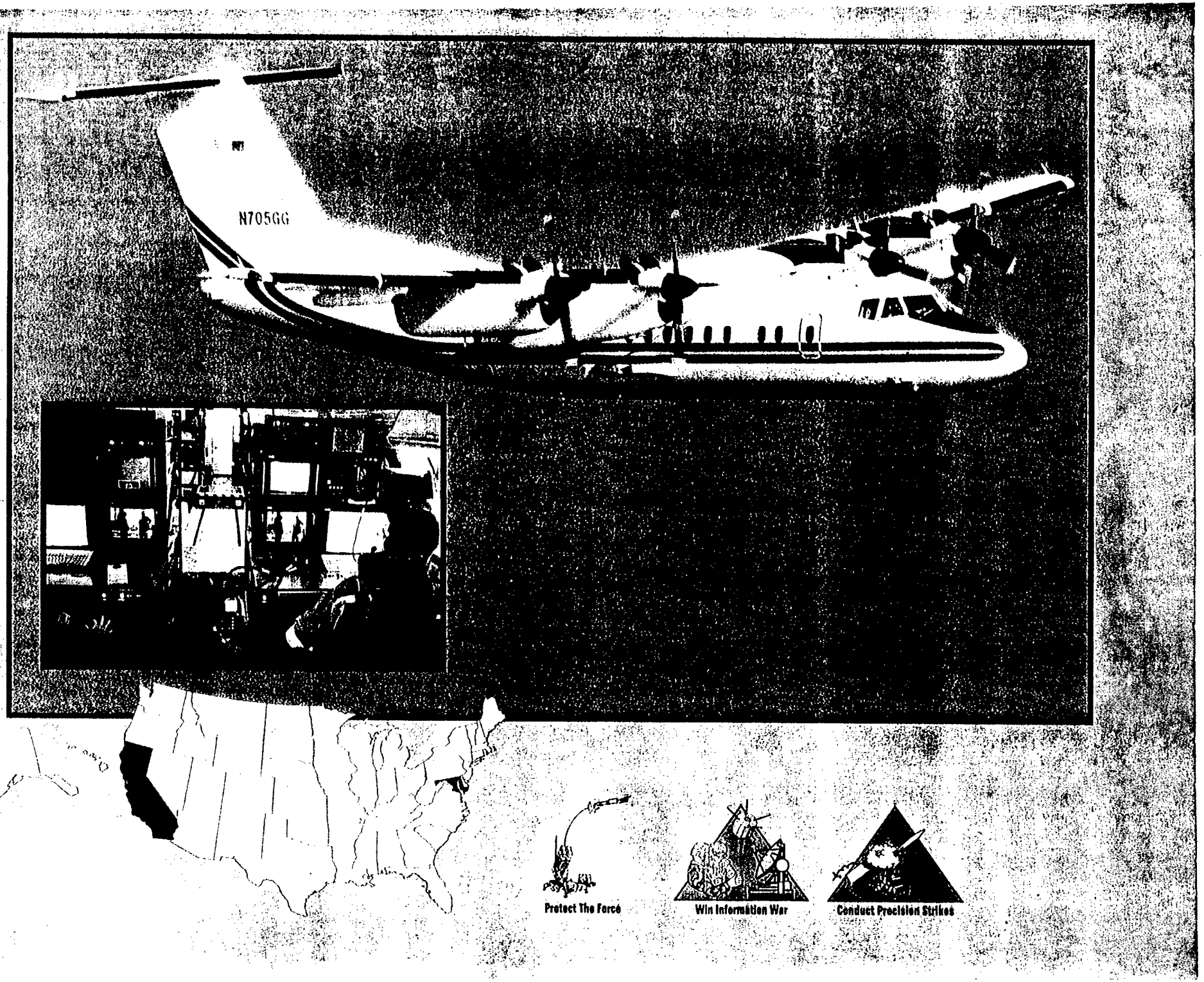
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: AQF is in the Engineering and Manufacturing Development phase. An integrated Customer Test with the GBCS-L, GBCS-H and AQF was conducted in 4QFY95 in support of an early FY96 Milestone IIIA decision for AQF Low Rate Initial Production.

PROJECTED ACTIVITIES: AQF will participate in the GBCS-L User Testing in 3QFY96.

PRIME CONTRACTOR: Chrysler Corp. (Electrospace Systems, Inc.) (Richardson, TX)

*See appendix for list of subcontractors.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Protect The Force
Win Information War
Conduct Precision Strikes

MISSION: The Airborne Reconnaissance Low (ARL) is a multifunction, day/night, all weather reconnaissance intelligence asset providing low profile, rapidly deployable, intelligence collection, exploitation and reporting.

CHARACTERISTICS: The ARL is a modified DeHavilland DHC-7 (RC-7B) fixed wing aircraft with a core Signal Intelligence (SIGINT) and imagery intelligence (IMINT) mission payload controlled and operated via onboard open architecture, multifunction workstations. The SIGINT subsystem has an HF/VHF/UHF intercept and direction finding capable Electronic Support Measures (ESM) system. The IMINT subsystem is equipped with an infrared line scanner (IRLS), forward looking infrared (FLIR), and daylight imaging system (DIS). The ARL system has been developed to accommodate diverse mission requirements through the implementation of an open architecture, modular, reconfigurable mission sensor. The core complement of sensors will be complemented with MTI and could include low-light level TV (LLTV), multi-spectral camera, acoustic range extension system, precision targeting subsystem, and remote configuration using a direct air-to-satellite datalink. Currently, there are three interim-capable ARL systems fielded to support U.S. SOUTHCOM requirements. These fielded systems are in two different configurations; two for performing SIGINT missions (ARL-C) and one for performing IMINT missions (ARL-I). Both are capable and operate with Host nation operators on board.

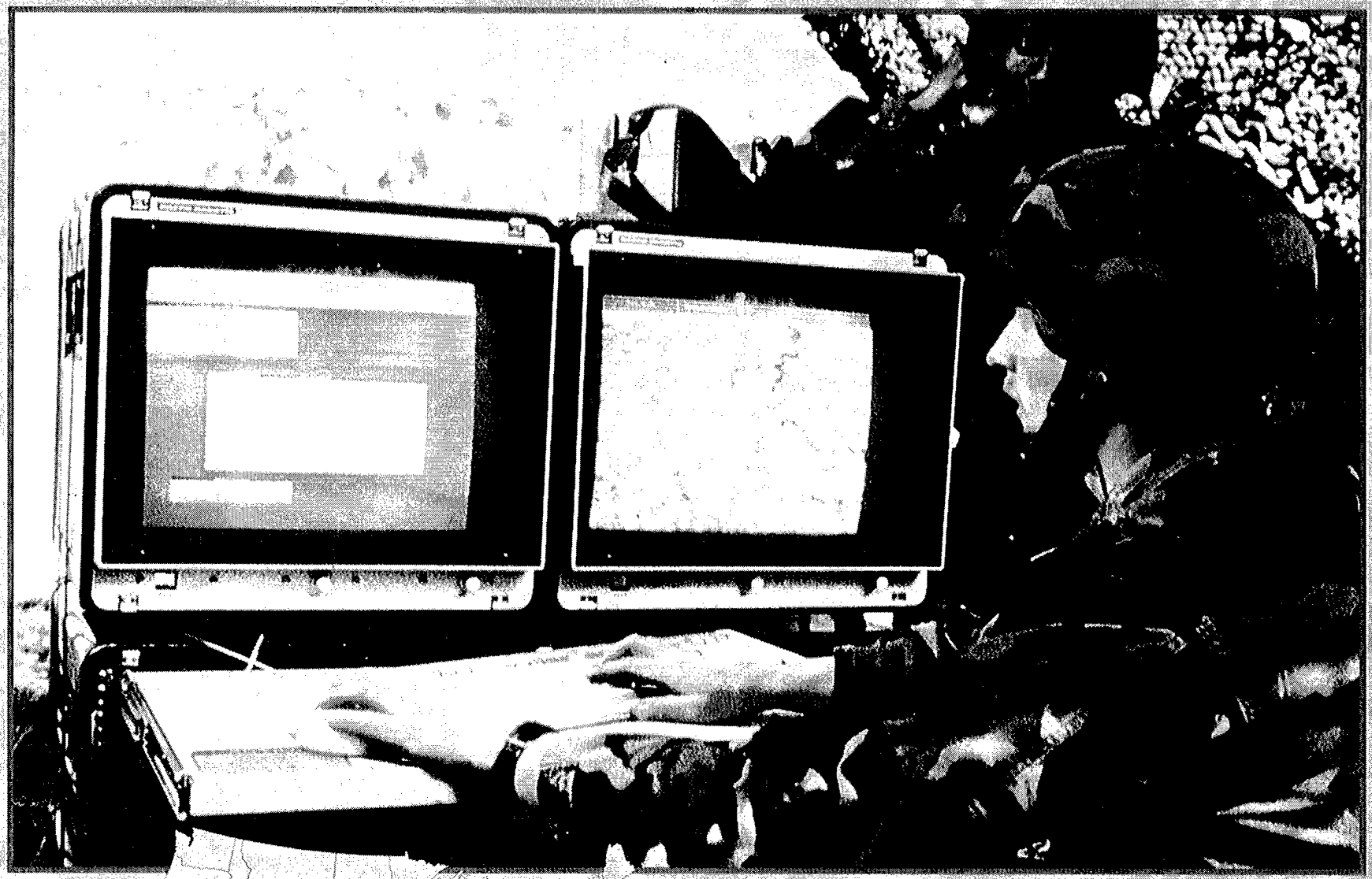
FOREIGN COUNTERPART: Numerous countries possess signal and/or imagery intelligence systems, but none provide the robust multi-intelligence capability of ARL, with joint capable interoperability links among NATO allies.

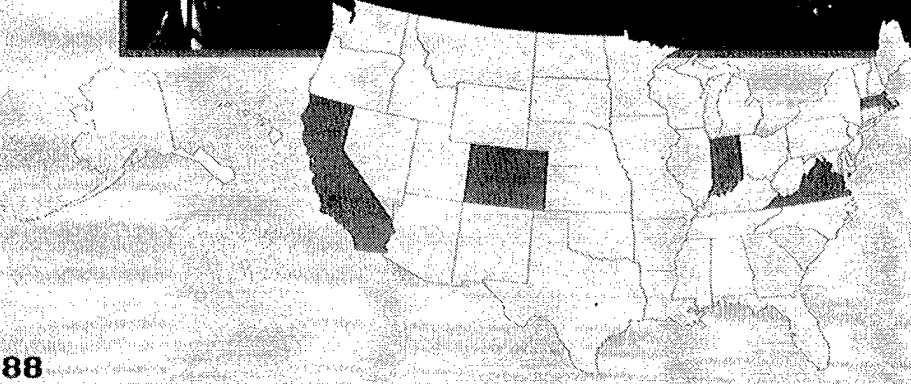
PROGRAM STATUS: The ARL-I was tasked to support ACOM Joint Operations in Haiti and FEMA relief efforts in the Virgin Islands. In 1994, the Army designated ARL as its primary rapid force projection airborne intelligence system. The ARL systems have proved their superior sustainability (98% FMC while in Haiti), minimal Time Phased Force Deployment Data List (TPFDDL) requirements, and low operational and maintenance costs.

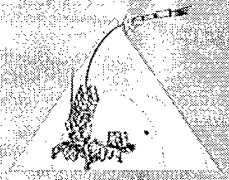
PROJECTED ACTIVITIES: ARL-M units #4 and #5 fielding is scheduled for June 1996; ARL-M unit #6 fielding is scheduled for December 1996; ARL-I/C (units #1-3) retrofit to ARL-M is scheduled for FY97-98.

PRIME CONTRACTOR: ARL-I and ARL-M system integration, ARL-I PME CLS: California Microwave Inc. (Belcamp, MD)
ARL-C system integration and PME/Aircraft CLS, ARL-I aircraft CLS: TRW Inc. (Sunnyvale, CA)

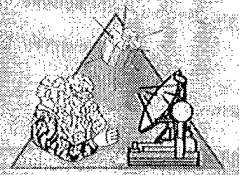
*See appendix for list of subcontractors.







Protect The Force



Win Information War

MISSION: The ASAS is the Intelligence Electronic Warfare (IEW) subelement of the Army Battle Command System (ABCS). The ASAS will provide combat leaders the all source intelligence needed to view the battlefield and more effectively conduct the land battle.

CHARACTERISTICS: ASAS is a tactically deployable capability which receives and correlates data from strategic and tactical intelligence sensors and sources; produces ground battle situation analysis through threat integration; rapidly disseminates intelligence information; provides target nominations; helps manage organic IEW assets; and assists in providing operational security support. The ASAS is theater independent and operates during peacetime supporting contingency and crisis operations; during low, mid and high intensity wartime, and during restoration and return to peace stabilization periods.

FOREIGN COUNTERPART: No known foreign counterpart.

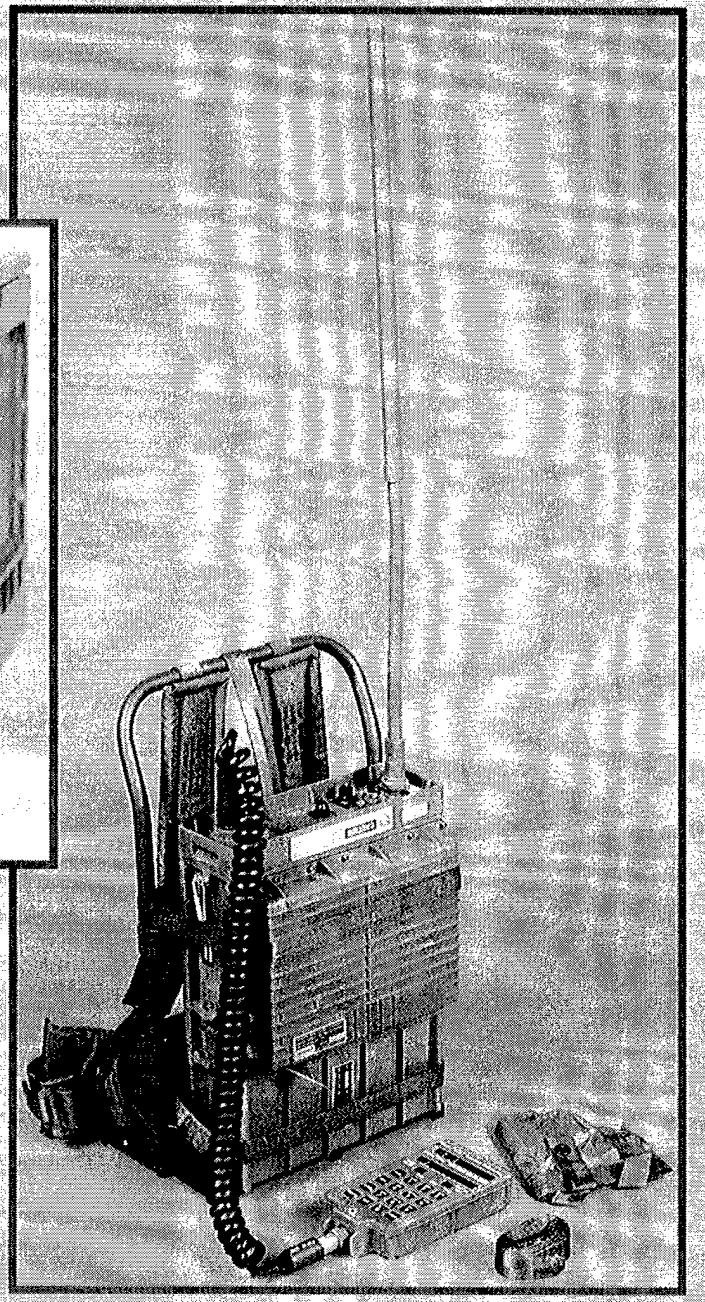
PROGRAM STATUS: ASAS is an evolutionary acquisition project with five distinct blocks—with Blocks IV and V being developed under PDSS. Block I, which provided initial software functionality, was fielded to 11 high priority units and the training base during the FY93-95 timeframe. ASAS-Extended, an NDI variant of fielded ASAS, is being fielded to the remainder of the MI active force and Reserve Components (FY95-99). ASAS Block II, a streamlined acquisition initiative, builds upon the success of Block I, upgrading capabilities and transitioning to the Common Operating Environment (COE) and Task Force XXI beginning in FY96. ASAS Block III will be principally a software enhancement that provides the Army with the Objective ASAS capability. The ASAS Block III development begins in FY99.

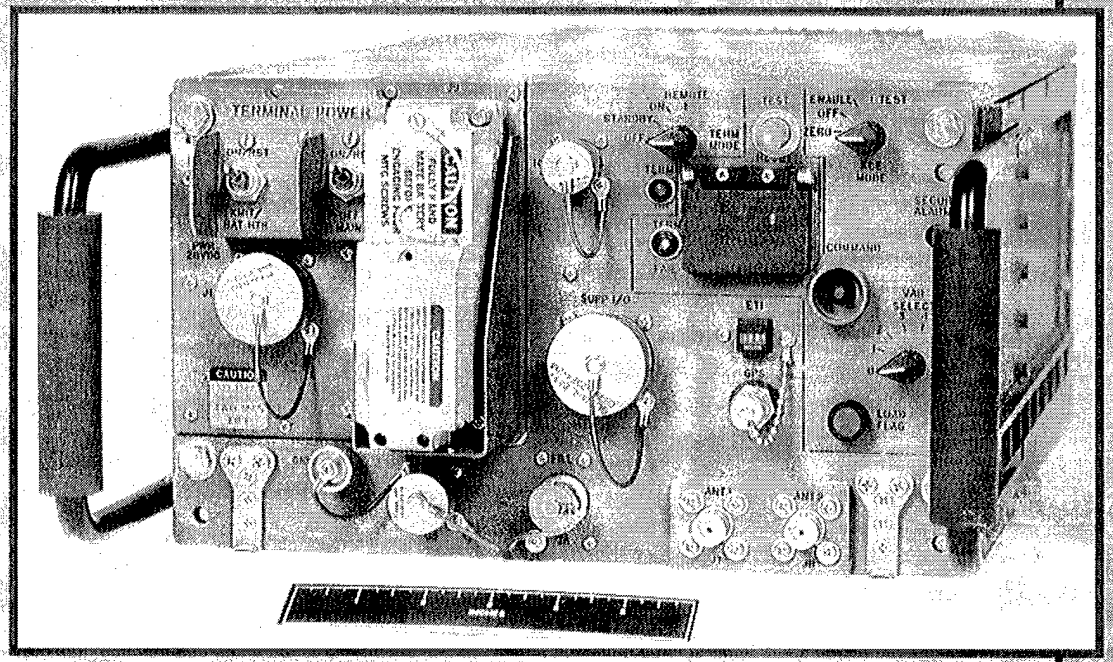
PROJECTED ACTIVITIES:
Continue fielding ASAS—Extended to Active and Reserve Components.
Procure and field CHS-2 hardware as part of Capability Packages one and two software upgrades.
Provide units with sustainment training assistance.
Continue ASAS Block II EMD effort.
Participate in JWID 96 and Task Force XXI.

PRIME CONTRACTOR: ASAS Block II: Lockheed Martin (Littleton, CO)

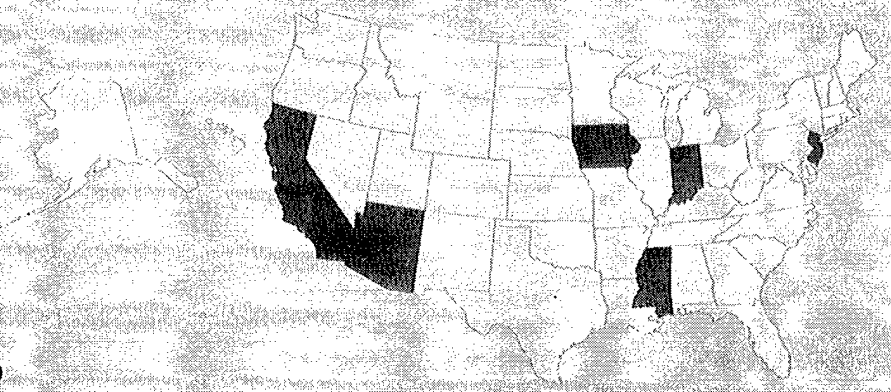
* See appendix for list of subcontractors.

Enhanced Position Location Reporting system (EPLRS)





Joint Tactical Information Distribution System (JTIDS)



Win Information War

MISSION: The ADDS functions to provide a tactical distribution system designed specifically to support the needs of the multitude of computers being fielded as part of the Army Tactical Command and Control System (ATCCS), which is transitioning to the Army Battle Command System (ABCS), and other battlefield automated systems. The Near-Term Digital Radio (NTDR) is a new program that will meet Army data communication needs at Brigade and below. The program vision is to create the Army communications data backbone for platoon to brigade for Task Force XXI.

CHARACTERISTICS: The ADDS consists of two major products: the Enhanced Position Location Reporting System (EPLRS) for medium-speed data distribution and the Joint Tactical Information Distribution System (JTIDS) for high-speed data distribution. The ADDS uses Time Division Multiple Access (TDMA) communications architecture to avoid transmission contention. Frequency hopping, error detection and correction with interleaving, and spread spectrum technology provide jam resistance. The EPLRS provides data distribution and position/navigation services in near real time. EPLRS consists of a Network Control Station (NCS) and EPLRS User Units (EPUUs). Up to 460 EPUUs can be controlled by a single NCS. The EPUU is a radio that can be configured as a Manpack Unit (MPU), a Surface Vehicle Unit (SVU), and an Airborne Vehicle Unit (AVU). The Army portion of the JTIDS program is the JTIDS class 2M terminal, which is a computerized radio integrated into host Army Air Defense Command and Control Systems and Army Ballistic Missile Defense Organization (BMDO) platforms to provide near-real-time, high-volume data communications. The EPUU can interface with a host computer. The JTIDS terminal (88 lb rack mounted) will be operated by the user of the host computer.

FOREIGN COUNTERPART: EPLRS has no known foreign counterpart. JTIDS is a joint and multinational system that will be interoperable with NATO units.

PROGRAM STATUS: A total of 1816 EPLRS were built during Low-Rate Initial Production. The IOTE was completed in August 1994. EPLRS began fielding in January 1995. The JTIDS has completed engineering development and system technical testing for the Class 2M Terminal. The Class 2M Terminal successfully completed a Limited User Test in December 1994 at Ft. Bliss, TX., and DT/IOTE/MS-OT III Testing is scheduled for 4QFY96-1QFY97 on the FY94 production Class 2M terminals. JTIDS Low-Rate Initial Production (LRIP) was awarded November 1995.

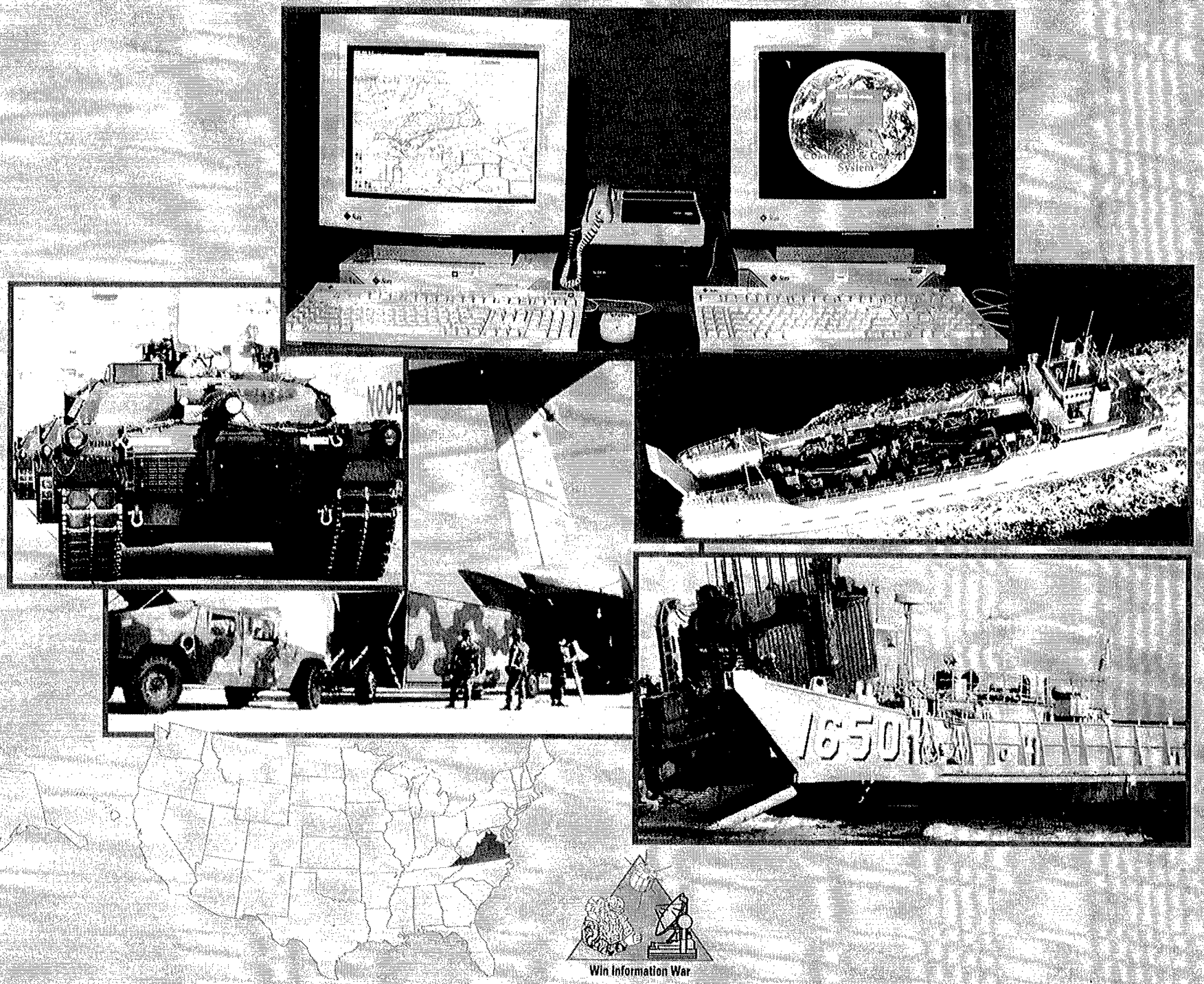
PROJECTED ACTIVITIES: JTIDS Full Rate Production Decision is scheduled for March 1997.

EPLRS Very High Speed Integrated (VHSIC) developed under EPLRS LRIP are scheduled for retrofit starting 2QFY98. VHSIC and on-going Engineering Change Proposal (ECP)/System Improvement Program (SIP) efforts will provide EPLRS with a three-fold increase in data rate.

NTDR A competitive Request for Proposal was released to industry 24 May 1995. Proposals were received on 26 June and contract will be awarded 2QFY96.

PRIME CONTRACTOR: General Motors Corp. (Hughes Aircraft Company) (El Segundo, CA and Forest, MS)—EPLRS
GEC-Marconi (Totowa, NJ)—JTIDS

* See appendix for list of subcontractors.



Win Information War

MISSION: As the echelon above corps (EAC) segment of the Army Battle Command System (ABCS), the AGCCS will provide functional applications and decision support software for commanders and staffs at strategic command centers, theater army headquarters, and major subordinate commands.

CHARACTERISTICS: The AGCCS is the Army implementation of the Joint Staff sponsored Global Command and Control System (GCCS). The AGCCS will be interoperable with the GCCS and the tactical implementations of the ABCS such as the Army Tactical Command and Control System (ATCCS) to provide significant improvement in information exchanges between all levels of joint and service operations.

The AGCCS is developed by reusing the "best of breed" functional C2 software currently resident in other Army systems such as, the Army WWMCCS Information System (AWIS) and the Standard Theater Army Command and Control System (STACCS). Application code from these systems is integrated into the GCCS Common Operating Environment (COE). The COE incorporates standardized rigidly controlled non-developmental software modules as promoted by all military components and provides a full range of systems services for database functions, network operations, message handling, mapping, security controls and more. The system's hardware platform is based on the Common Hardware Software II (CHS II) contract. The system architecture links users via Local Area Networks (LANs) in Client/Server configurations with interface to the Secret Internet Protocol Router Network (SIPRNET) for worldwide communication.

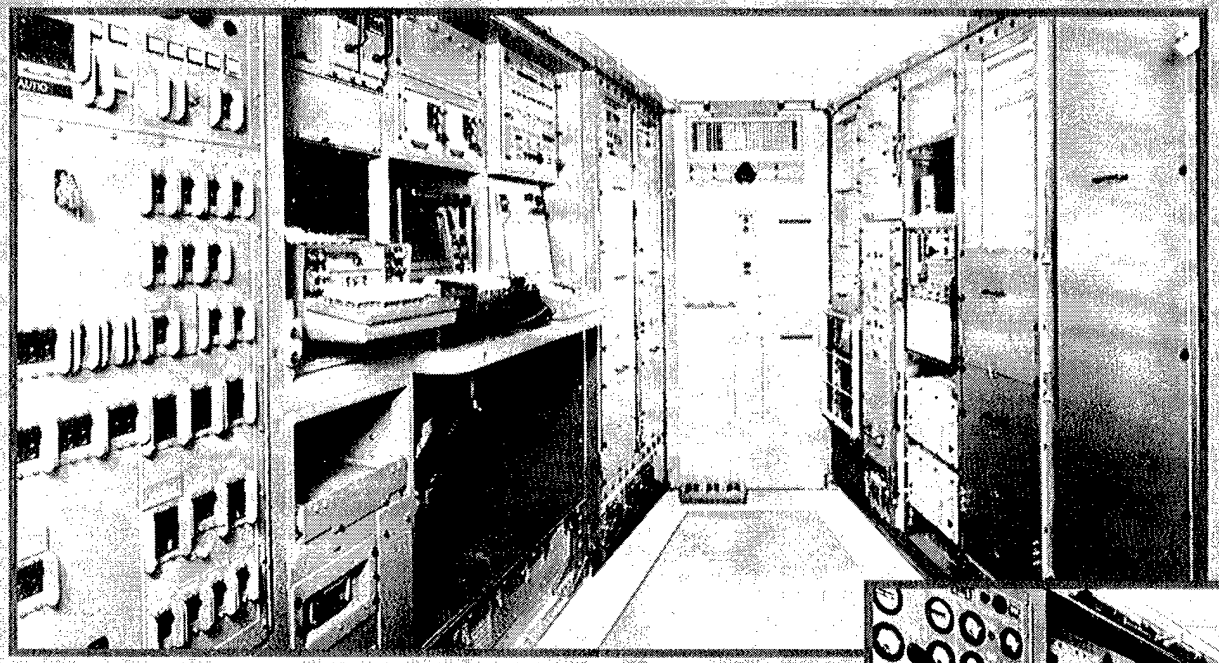
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: Award of the AGCCS systems integration and development contract, December 1994. The initial operating capability (IOC) occurred in December 1995. Currently validating requirements for continuing C2 functional enhancement.

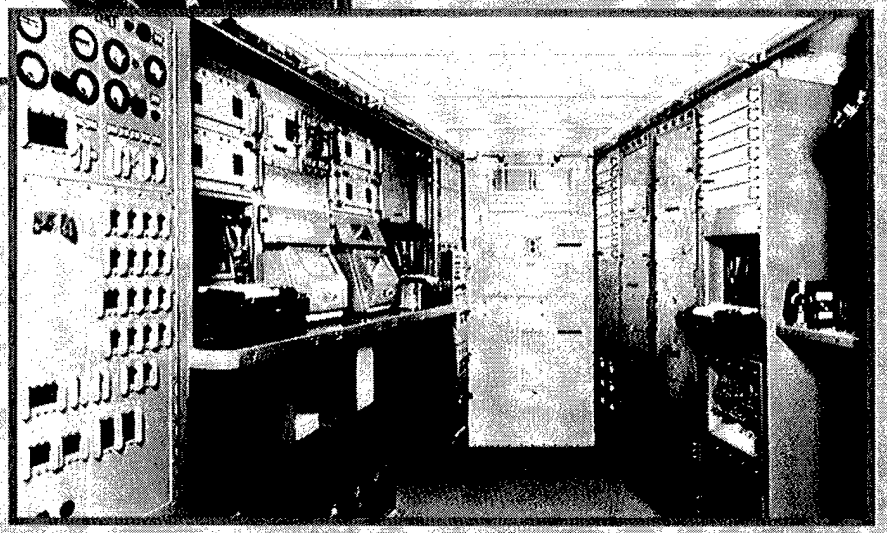
PROJECTED ACTIVITIES: Fielding of functional capabilities began in July 1995, with ten increments to follow through completion.

PRIME CONTRACTOR: Lockheed Martin (Springfield, VA)

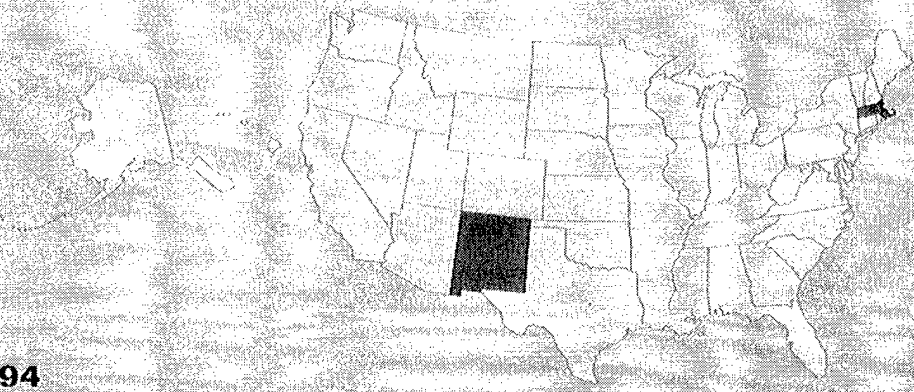
*See appendix for list of subcontractors.



Nodal Control Mobile Subscriber Access Circuit Switch (AN/TTC-39D)



Message Switch (AN.TYC-39A)



MISSION: The mission of this equipment is to provide automatic switching service—interconnecting analog and digital users—between tactical and Defense Communication System (DCS) switches and between U.S. and NATO national switches.

CHARACTERISTICS: The AN/TTC-39A/D system is the heart of the multichannel switched network and is a highly efficient means of connecting telephones, message traffic, and data users in both secure and nonsecure modes in the area network at Echelons Above Corps (EAC). The AN/TYC-39 system provides corps and theater echelons with tactical, automatic store, and forward-record traffic capability. The EAC extension system is based on Mobile Subscriber Equipment (MSE) identical switches: the AN/TTC-46 (LEN) and AN/TTC-48 (SEN). The AN/TTC-39 circuit switch family consists of three fielded versions. The "A" model switches are an S-280, 744-line analog/digital switch with integral COMSEC and a downsized, modified S-250, 324-line analog/digital switch. Both provide up to 7,500 calls-per-hour service, 5-level precedence, conference, and many other subscriber features. The "D" model is an S-280, 708-line analog/digital switch that incorporates the same affiliation and flood search routing as provided in MSE. A packet switch (PS) overlay provides a data transfer capability identical to that in MSE. Most "A" features are still available in the "D" model. The AN/TYC-39 message switch family consists of two fielded versions. All are in S-280 shelters. There are a dual-shelter, 50-line switch and single-shelter, 48-line switches. All are tactical, automatic store, and forward switches that provide service for both strategic (R) and intelligence (Y) communities. The switches provide interface with inventory, TRI-TAC, and Automatic Digital Network (AUTODIN) equipment with precedence, security, and other subscriber features.

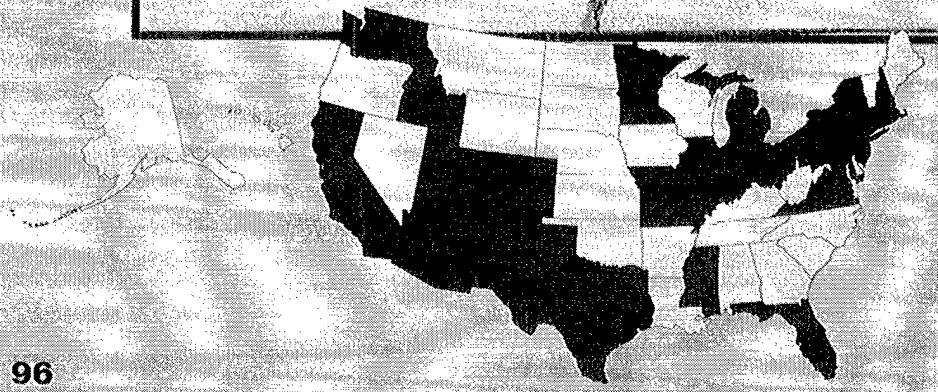
FOREIGN COUNTERPART: No known foreign counterpart.

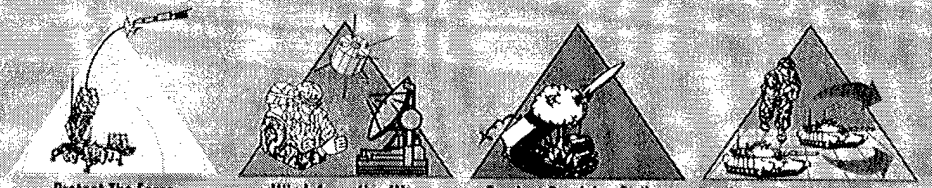
PROGRAM STATUS: The circuit and message switches are currently deployed and were initially authorized for production in FY80. Both switches are currently in product improvement phases. The circuit switch "A" model has been fully fielded to the Army, Air Force, and Joint communities. The "D" model with PS will complete fielding in FY96. A Circuit Switch Routing Improvement Program (CSRTEP) has been completed and tested and will provide for a common software baseline in most TTC-39 A/39D and MSE switches. Fielding of this upgrade commences 1QFY96. The fielding of the "A" version of the AN/TYC-39 is on-going in CONUS and USAREUR units.

PROJECTED ACTIVITIES:
Award contract for Flyaway Message Switch.
Award ECP for AN/TTC-39D downsizing and single shelter switch program.
Field Routing Improvements (CSRTEP) to all TTC-39/MSE switch users.
Incorporate Enhanced Switch Operation Program (ESOP) into TTC-39D.
Incorporate video and Asynchronous Transfer Mode (ATM) capabilities into TTC-39 family of switches.

PRIME CONTRACTOR:
GTE (Taunton, MA)
Laguna Industries (Albuquerque, NM)

* See appendix for list of subcontractors.




Protect The Force
Win Information War
Conduct Precision Strikes
Dominate The Maneuver Battle

MISSION: The Comanche will perform the armed reconnaissance mission for attack helicopter, air cavalry units.

CHARACTERISTICS: The Comanche (RAH-66) is the Army's next generation helicopter designed to perform the armed and light attack reconnaissance mission. The Comanche will significantly expand the Army's capability to conduct reconnaissance operations in all battlefield environments, adverse weather, and during the day or night. The Comanche will "protect the force" with its advanced electro-optical sensors, aided target recognition and sensor/weapons integration. Comanche's digital communications capacity will enhance the Army's capability to win the "battlefield information war" and allow interface with Joint Surveillance and Target Attack Radar System (JSTARS) and other joint sensors and weapons platforms. Comanche's design for rapid rearm, refuel and repair will provide increased operation tempo. Low observability, target recognition and digitized communications provide the capability to conduct deep "precision strike" missions against time sensitive targets. The Comanche will replace three types of helicopters (AH-1, OH-58, and OH-6) that currently perform the armed reconnaissance mission.

Weight:	7,765 lb (weight empty)
Crew:	2 pilots (single-pilot operable)
Speed:	175 kt (Dash)
Endurance:	2.5 hr (plus 20-minute reserve)
Armaments:	Air-to-ground and air-to-air missiles

Mission Equipment Package: Turret-mounted cannon, advanced electro-optical target acquisition and designation system, aided target recognition and helmet-mounted display. Each aircraft will have Longbow capability and provisions for additional weapon stores.

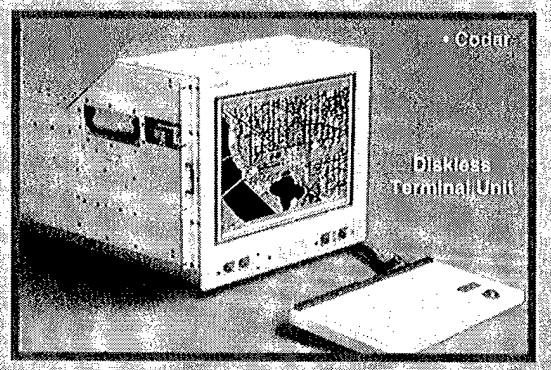
FOREIGN COUNTERPART: French/German: Tigre

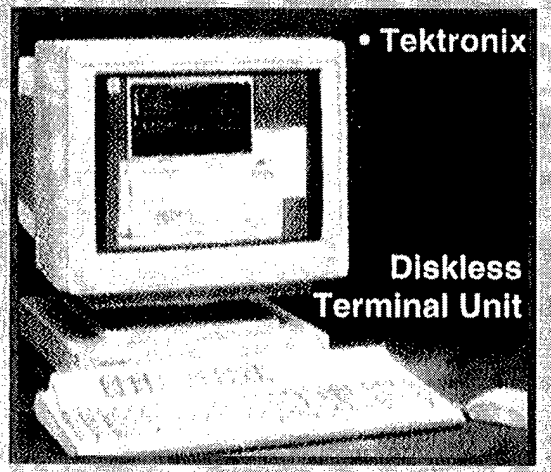
PROGRAM STATUS: The program is currently in the development phase of the acquisition life-cycle, with two prototype aircraft being built and flight tested. The program also includes six Early Operational Capability (EOC) aircraft that will be evaluated in a field environment prior to initiation of low-rate initial production (LRIP). The program is structured into a single development phase encompassing both Demonstration/Validation and Engineering and Manufacturing Development requirements to streamline the program to reduce costs and eliminate inefficiencies. First flight of prototype 1 occurred 4 January 1996.

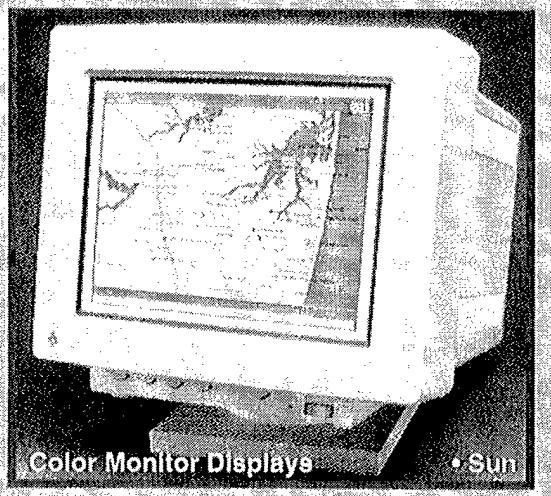
PROJECTED ACTIVITIES: DAB MSII October 2002
IOC July 2006

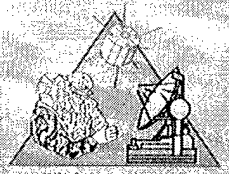
PRIME CONTRACTOR: Boeing and Sikorsky Team (Stratford, CT)
AlliedSignal/Rolls-Royce/Allison Team (Indianapolis, IN)

* See appendix for list of subcontractors.


• Codar
Diskless
Terminal Unit


• Tektronix
Diskless
Terminal Unit


Color Monitor Displays
• Sun


Win Information War

MISSION: CHS is the Army's program to equip the Army Battle Command Systems (ABCS)—from Echelons above Corps (EAC) to foxhole—with common hardware/software.

CHARACTERISTICS: CHS will improve interoperability and lower life-cycle costs by standardizing battlefield command and control (C^2) automation through centralized buys of Non-Developmental Items (NDIs), standardized protocols, and reusable common software. The program provides common hardware and software to over 80 Army and DoD customers. Four hardware versions are available, the CHS-1 Transportable Computer Unit (TCU), the CHS-2 Handheld Terminal Unit (HTU), CHS-2 High Capacity Computer Unit (HCU), and the Lightweight Computer Unit (LCU). The Version 2 (2) equipment is a ruggedized version

	CHS-1 TCU	CHS-2 HTU	CHS-2 HCU(2)	LCU
Processor:	Risc	80486	Risc	80486
MHz clock:	125	50	50	33/66
Mips:	147	>10	129.4	14/20
Ram:	80-400 mb	16 or 32 mb	32-512 mb	832/8-128 mb
CHS/LCU software:	UNIX/ POSIX	SQL DBMS/ SBMS	LAN SW/ LAN SW	GKS – Graphic/GUI

FOREIGN COUNTERPART: No known foreign counterpart.

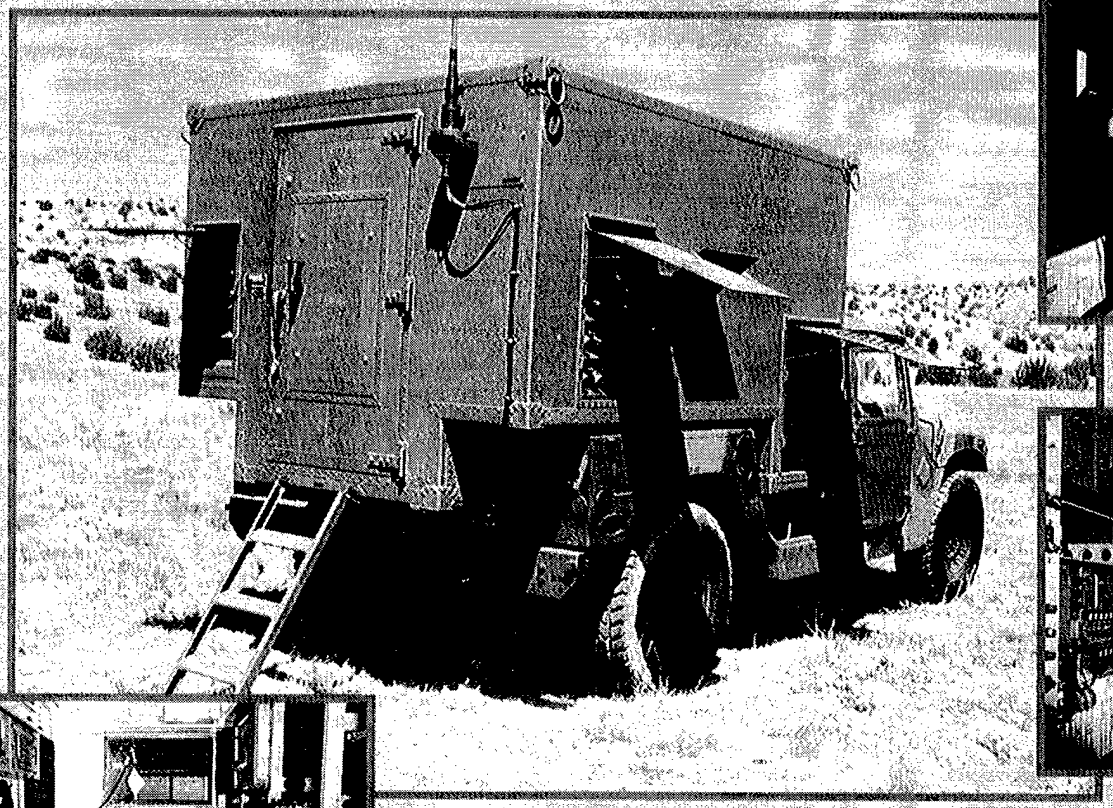
PROGRAM STATUS: The CHS contract was extended to August 1997. CHS-2, which is a follow-on to the CHS-1 contract, was awarded to GTE April 10, 1995. Version 2 equipment begins delivery February 1996.

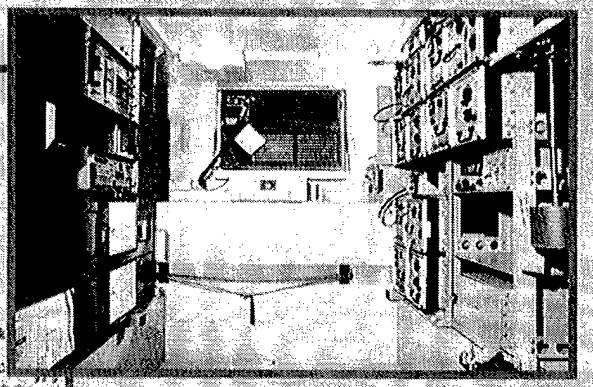
PROJECTED ACTIVITIES: Test, accept, and deliver initial CHS-2 HW/SW.
Continue execution of common HW/SW upgrades.

PRIME CONTRACTOR: GTE (Taunton, MA): CHS-2
SAIC (San Diego, CA): LCU
Stonebrook Group (MILTOPE Inc.) (Melville, NY): CHS-2

* See appendix for list of subcontractors.

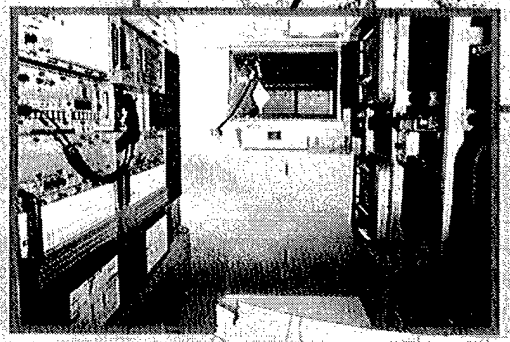
HMDA Shelter Exterior



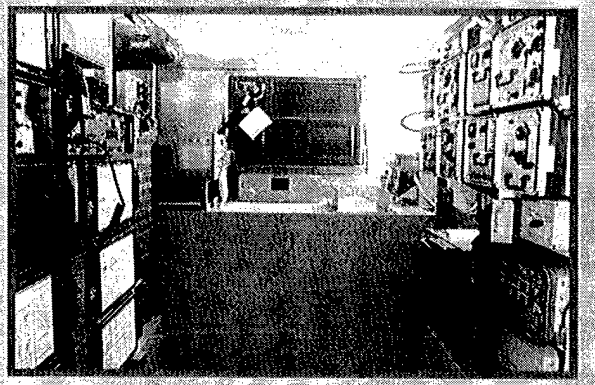


AN/TRC-174B

AN/TRC-138C



AN/TRC-175B



AN/TRC-173B

Win Information War

MISSION: This equipment represents a family of high-capacity, digital radio systems that link circuit and message switches into communications networks supporting telephone and message traffic at the theater-tactical level. They also provide the transmission path for linking extension switches at subscriber locations into the main switching network.

CHARACTERISTICS: The Digital Transmission Assemblages provide a series of radio relay and radio terminal equipment in a variety of sizes, capabilities, and characteristics. The following provides a listing of the available systems.

AN/TRC-173	(fullsize)	Radio Terminal Set:	Single Shelter (S-280C)
AN/TRC-173A	(downsize)	Radio Terminal Set:	Single Shelter (S-749)*
AN/TRC-173B	(HMDA)	Radio Terminal Set:	Single Shelter (S-805G)
AN/TRC-174	(fullsize)	Radio Repeater Set:	Single Shelter (S-280C)
AN/TRC-174A	(downsize)	Radio Repeater Set:	Single Shelter (S-749)*
AN/TRC-174B	(HMDA)	Radio Repeater Set:	Single Shelter (S-805G)
AN/TRC-175	(fullsize)	Radio Terminal Set:	Single Shelter (S-280C)
AN/TRC-175A	(downsize)	Radio Terminal Set:	Single Shelter (S-749)*
AN/TRC-175B	(HMDA)	Radio Terminal Set:	Single Shelter (S-805G)
AN/TRC-138A	(fullsize)	Radio Repeater Set:	Single Shelter (S-280C)
AN/TRC-138B	(downsize)	Radio Repeater Set:	Single Shelter (S-749)*
AN/TRC-138C	(HMDA)	Radio Repeater Set:	Single Shelter (S-805G)

*S-749 is essentially an S-280C shelter reduced in length from 12 ft to 7 ft

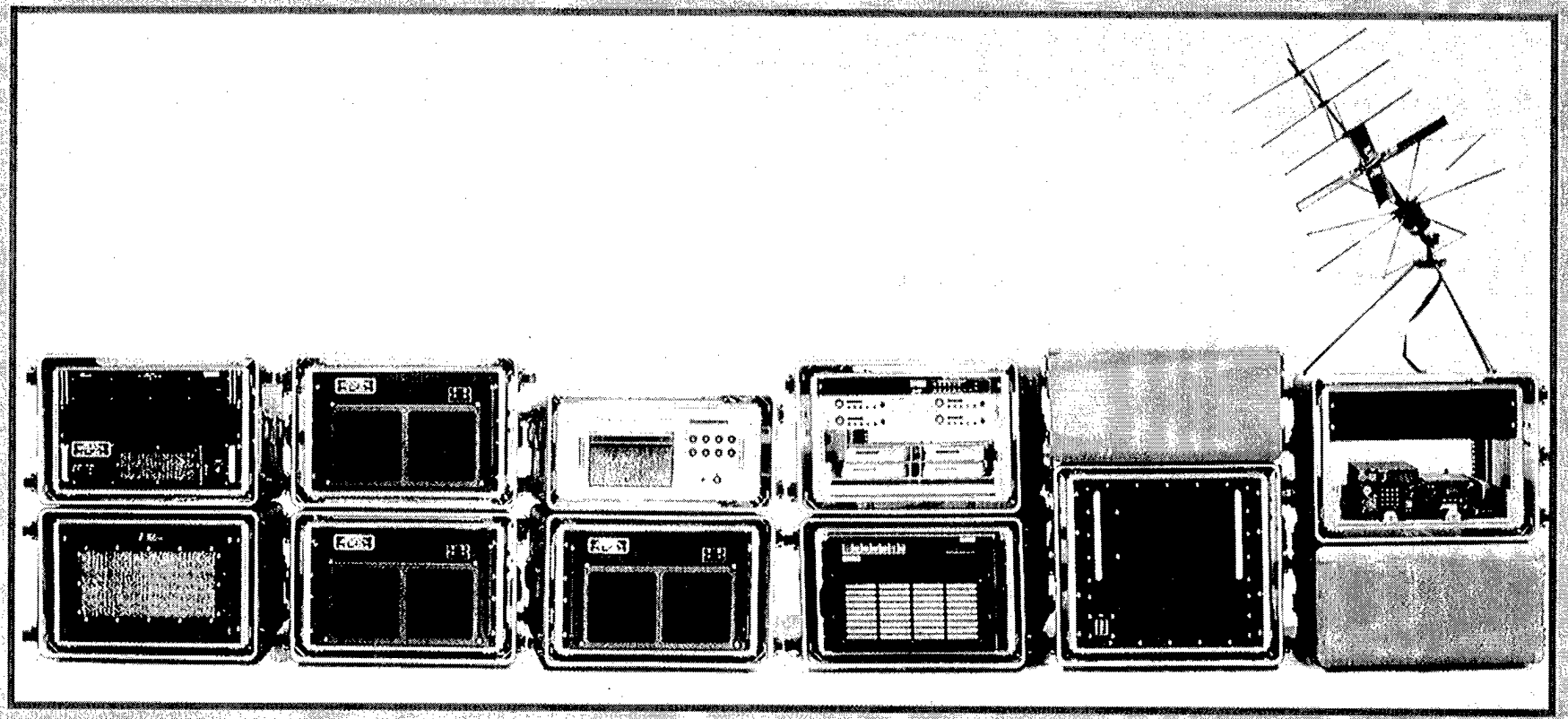
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: A new generation of assemblages is currently being produced by Laguna Industries. These are known as the High Mobility DGM Assemblage (HMDA) and are transported on two heavy HMMWVs. These systems will replace the active Army assemblages in EAC Signal units in FY96 and FY97. The First Article Test was completed and an Option Year I was awarded during 2QFY95. Production deliveries began 1QFY96.

PROJECTED ACTIVITIES: HMDA retrofits begin in 2QFY96.

PRIME CONTRACTOR: Laguna Industries (Laguna Pueblo, NM)

* See appendix for list of subcontractors.



Enhanced Trackwolf Station
AN/TSQ-205

MISSION: The Enhanced Trackwolf (ET) system is an Echelon Above Corps (EAC), ground based, man-transportable, transit cased, High Frequency direction finding and intercept system.

CHARACTERISTICS: The Enhanced Trackwolf is an evolutionary step from the Trackwolf Program, with greater transportability, capability, and operational flexibility. The program was directed by Congress in FY93 as a result of DESERT SHIELD/DESERT STORM, during which the current Trackwolf system proved too large and cumbersome for rapid deployment. In addition to transportability advantages from the current Trackwolf system, ET will incorporate advanced capabilities that will allow intercept of modern modulations. The system consists of three stations, each with nine positions, each configured as 1 DF, 2 Management/Analysis, and 6 Collection functions. Set-up/tear-down times are less than four hours and each suite uses less than 4000 watts of power. The architecture is designed to be an integration of proven technologies, with extensive use of non-developmental hardware and software.

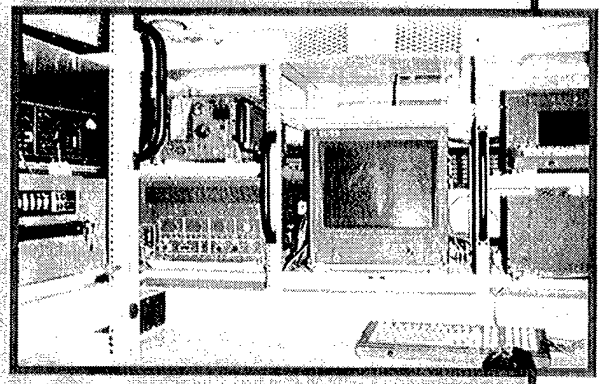
FOREIGN COUNTERPART: No known foreign counterpart.

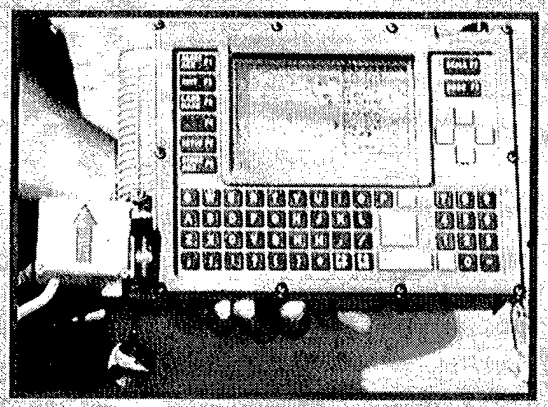
PROGRAM STATUS: A competitive solicitation resulted in an award for the ET effort on 31 March 1994. Critical Design Review conducted 2QFY95. Software and hardware testing completed 4QFY95.

PROJECTED ACTIVITIES: Operational Test planned for 3QFY96.
Fielding scheduled for 4QFY96.

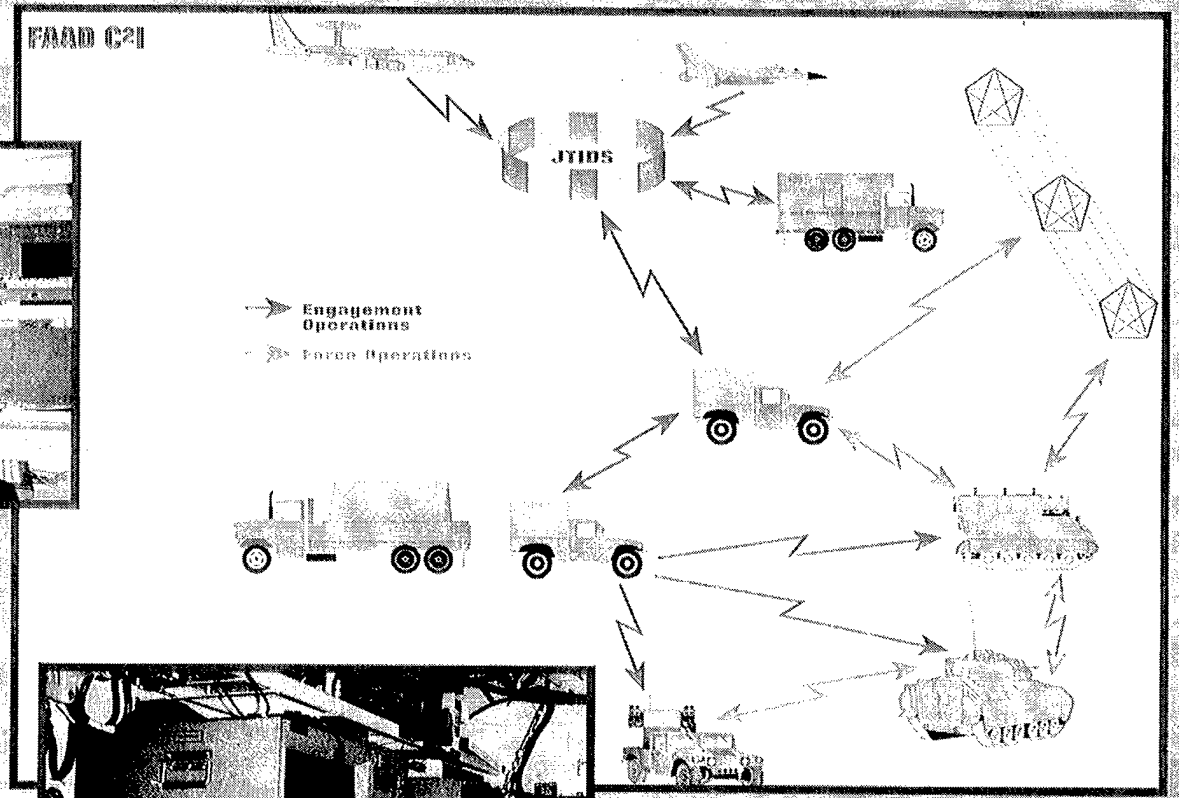
PRIME CONTRACTOR: Engineering Research Associates (Vienna, VA)

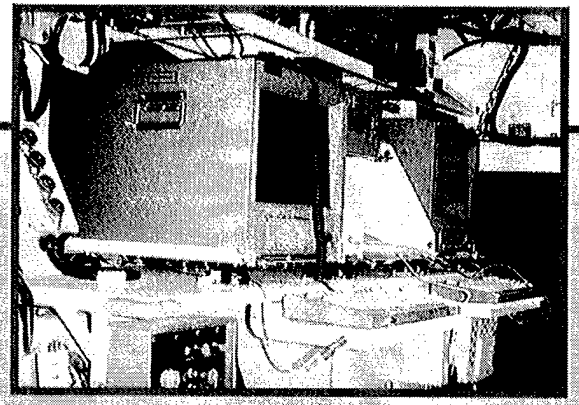
HP 735 Computer Terminal
RISC Processor



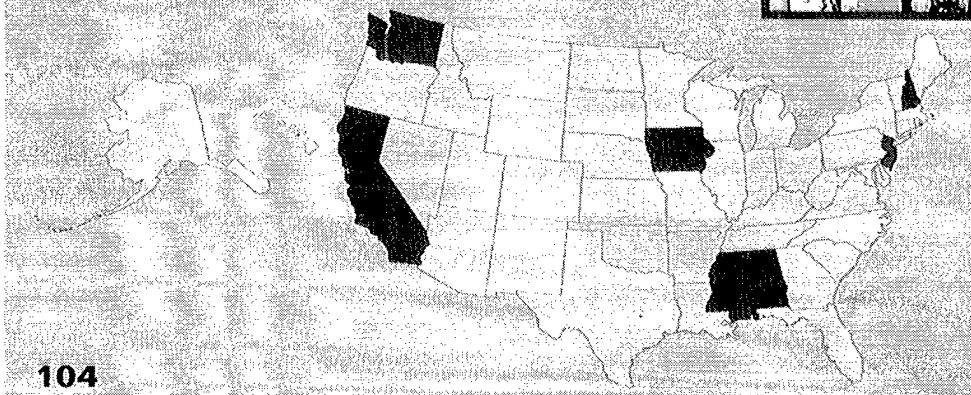


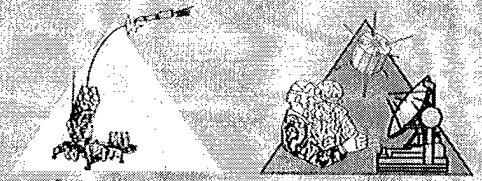
Hand Held Terminal





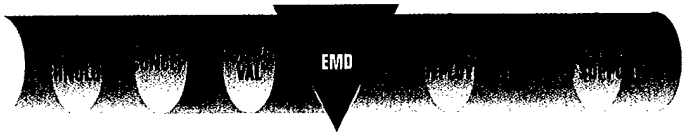
HP 735 Computer Terminal
RISC Processor





Protect The Force

Win Information War



MISSION: The FAADC^{2}I provides an automated means of providing timely target data to FAAD weapons, to protect friendly aircraft, and to facilitate management of the air battle.

CHARACTERISTICS: FAADC^{2}I consists of non-developmental computers, displays, printers, communication systems that are common to the Army Battle Command System (ABCS), non-developmental ground sensors and the requisite software that enhance the execution of air defense engagement operations (EO) and force operations (FO). FAADC^{2}I integrates air defense fire units, sensors, liaison elements, and command posts into a synergistic system capable of defeating and denying the aerial threat. It provides the automated interface (Division and below) for the Air Defense component to the ABCS and allows the commanders and staffs to communicate, plan, coordinate, and control the counter-air fight. FAADC^{2}I is capable of collecting, storing, processing, displaying and disseminating situational awareness (air and ground), targeting data, and battle command information throughout FAAD units and from other ADA, Army, Joint, and Combined elements. FAADC^{2}I enhances the ability of commanders, staff, and weapon system operators to visualize battlespace, realize situational awareness, defeat the enemy, and synchronize operations with the supported unit.

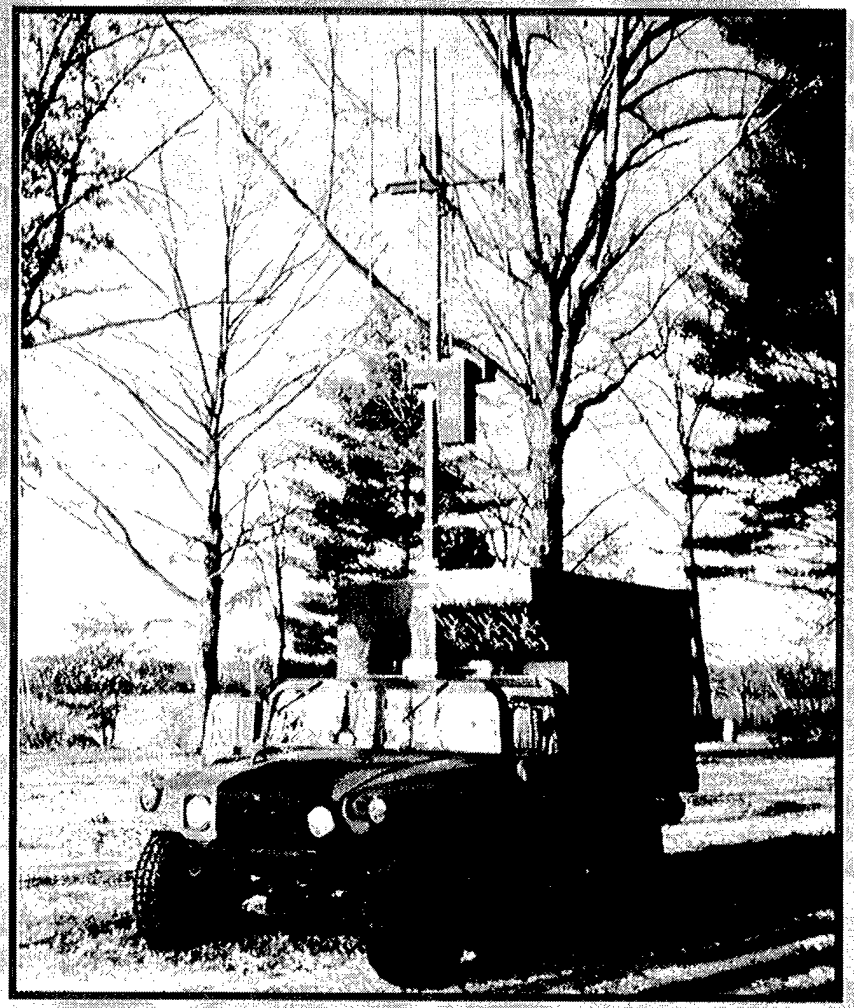
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The FAADC^{2}I system is currently in the Engineering and Manufacturing Development and Production phases. The basic effort consists primarily of software development, which is being developed incrementally. Block I successfully completed all contractor and government testing, reflects an Initial Operational Capability (IOC), and was fielded to the Light and Special Army Divisions beginning in 4QFY93. Block II completed all government testing, will be fielded to Heavy/Mechanized Army Divisions, and builds on the basic capabilities of Block I by improving the FAAD Sensor and Sensor Command and Control Subsystem, as well as establishing additional internal and external EO interfaces. Block III (Objective, 3QFY99) enhances interoperability, both vertically and horizontally, provides automated staff workstations and netted FAAD sensors to achieve the correlated (Joint/HIMAD/Local/Adjacent FAAD/Precise Participant Location and Identification) air picture with target data being provided down to the fire unit via EPLRS/SINCGARS simulcast. Block IV (FY00+) provides for EO and FO preplanned product improvements. It is currently envisioned that the FAADC^{2}I system will be fielded to all active component FAAD units, selected ARNG FAAD units and the training base.

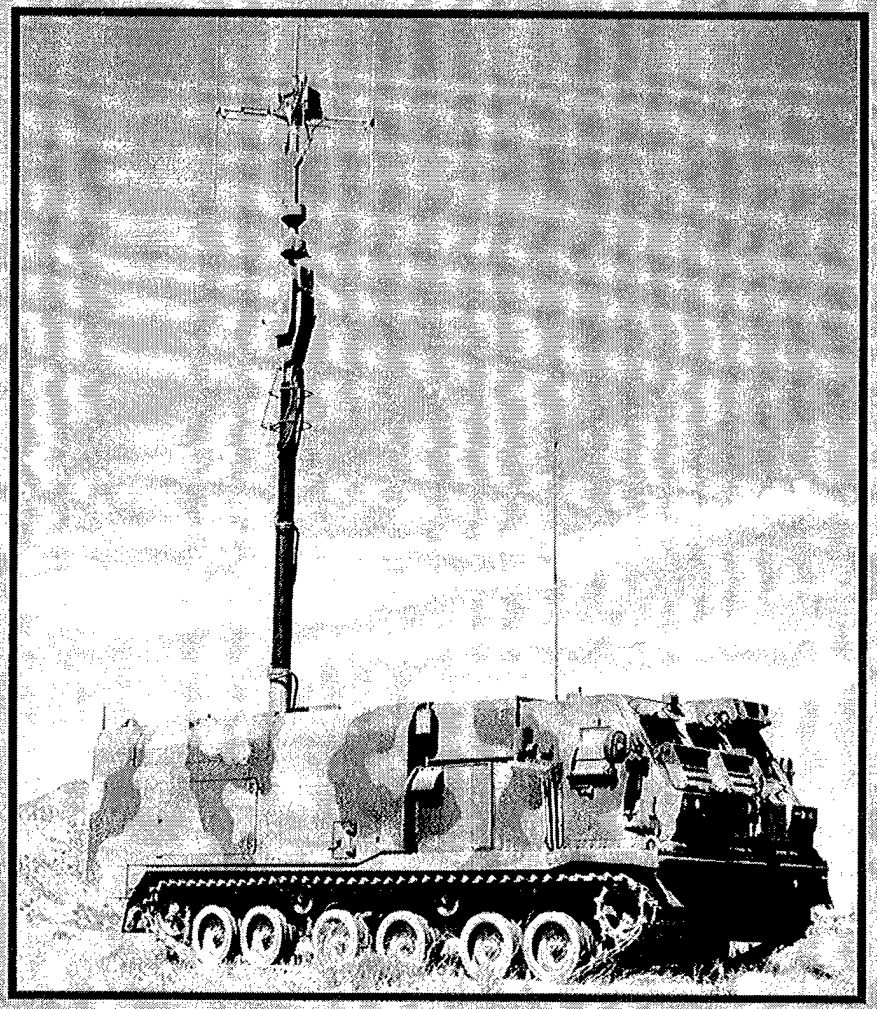
PROJECTED ACTIVITIES: Complete fielding (Block II) to 1st Cavalry Division in 3QFY96.

PRIME CONTRACTOR: TRW Inc. (Redondo Beach, CA)

* See appendix for list of subcontractors.



Ground-Based Common Sensor—Light



Ground-Based Common Sensor—Heavy

MISSION: The Ground-Based Common Sensor-Light (GBCS-L) and the Ground-Based Common Sensor-Heavy (GBCS-H) are vehicle mounted signals-intercept and precision emitter-location systems that intercept and identify enemy C3I emitters and radars and provide electronic countermeasures against enemy communications.

CHARACTERISTICS: GBCS, an intercept and precision emitter location system, provides Division commanders with the capability to intercept, precisely locate, and identify enemy conventional and Low Probability of Intercept (LPI) communications and noncommunications emitters and jam enemy conventional and LPI communications emitters. GBCS is an evolutionary, open architecture system which satisfies the Army's requirement to conduct tactical ground Communications Intelligence, Electronic Intelligence, Electronic Support against enemy communications and noncommunications emitters and Electronic Attack against threat communications; and enhances the commander's ability to outmaneuver and destroy the enemy by locating or jamming threat command and control, fire control, and air defense centers. The GBCS will be used in two platform configurations that can perform on all terrain. The GBCS-L will be deployed on a Highly Mobile Multipurpose Wheeled Vehicle (HMMWV) in support of Light Divisions. The GBCS-L can be transported by a C-130 or C-141. The GBCS-H will be deployed on a tracked vehicle (Bradley variant) in support of Armored and Mechanized Infantry Divisions. The GBCS-H can be transported by a C-17 and C-5.

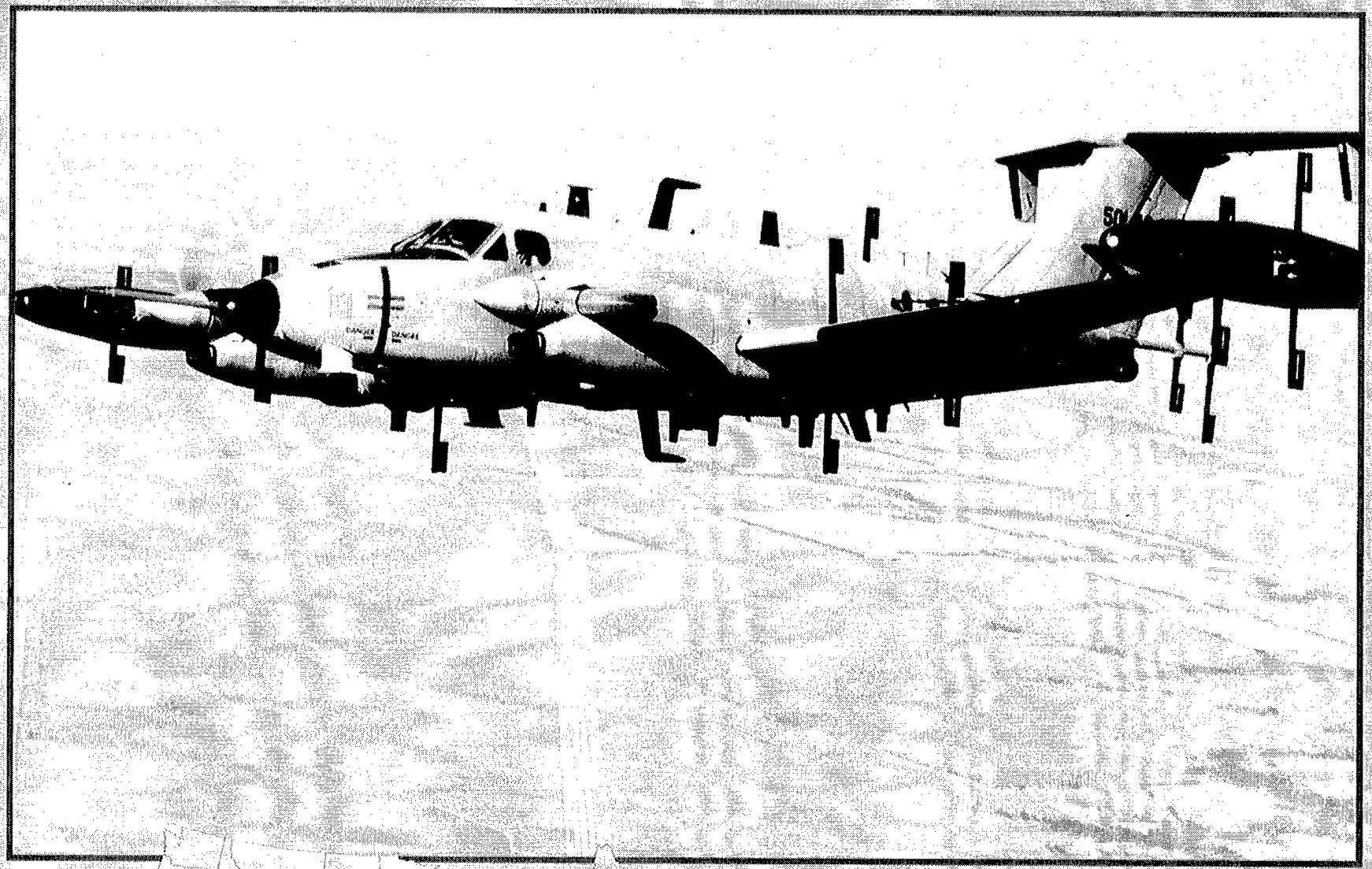
FOREIGN COUNTERPART: No known foreign counterpart.

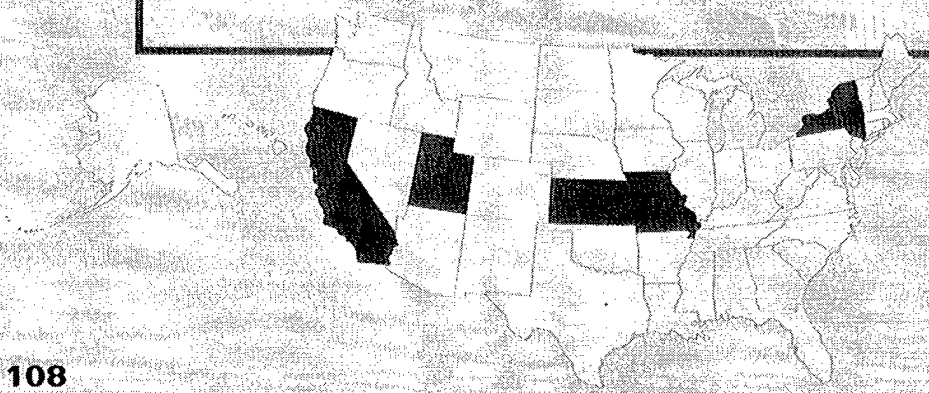
PROGRAM STATUS: Both light and heavy variants are in the Engineering and Manufacturing Development phase. A Customer Test for GBCS-L was conducted 3QFY94 and a Special In-Process Review for the GBCS-L occurred in 4QFY94 to support a Limited Procurement production decision.

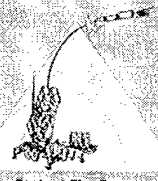
PROJECTED ACTIVITIES: An integrated GBCS-L, GBCS-H and Advanced Quickfix Customer Test was conducted 4QFY95 in support of an AQF Low Rate Initial Production (LRIP) decision in FY96.

PRIME CONTRACTOR: Chrysler Corp. (Electrospace Systems Inc.) (Richardson, TX)

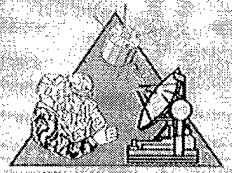
* See appendix for list of subcontractors.



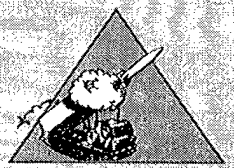




Protect The Force



Win Information War



Conduct Precision Strikes

MISSION: The Guardrail/ Common Sensor's (GR/CS) function is to provide a fixed-wing communication and electronic emitter intercept and direction-finding system. GR/CS operations support Corps, Division, and Joint Land Force Component Commanders in precision strike operations, winning the information war, and digitization of the battlefield by providing timely information via the Joint Tactical Terminal.

CHARACTERISTICS: The GR/CS is a Corps Level Airborne Signal Intelligence (SIGINT) collection/location system. GR/CS integrates the Improved Guardrail V (IGRV), Communication High Accuracy Airborne Location System (CHAALS), and the Advanced Quicklook (AQL) into the same SIGINT platform. One GR/CS system is authorized per Aerial Exploitation Battalion (AEB) in the MI Brigade at each Corps. A standard system consists of twelve aircraft which fly operational missions in sets of two or three. GR/CS provides near real-time SIGINT and targeting information to tactical commanders throughout the corps area with emphasis on Deep Battle and Follow-on Forces Attack support. Ground processing is conducted in the Integrated Processing Facility (IPF). Interoperable Data Links (IDL) provide microwave connectivity between the aircraft and the IPF. Primary reporting is accomplished via Joint Tactical Terminals (JTT). Key features include integrated COMINT and ELINT reporting, enhanced signal classification and recognition, near real time direction finding, precision emitter location, and an advanced integrated aircraft cockpit. Preplanned product improvements include frequency extension, computer assisted on-line sensor management, upgraded data links and the capability to exploit a wider range of signals. GR/CS shares technology with the Ground Based Common Sensor, Airborne Reconnaissance Low, and other Joint systems.

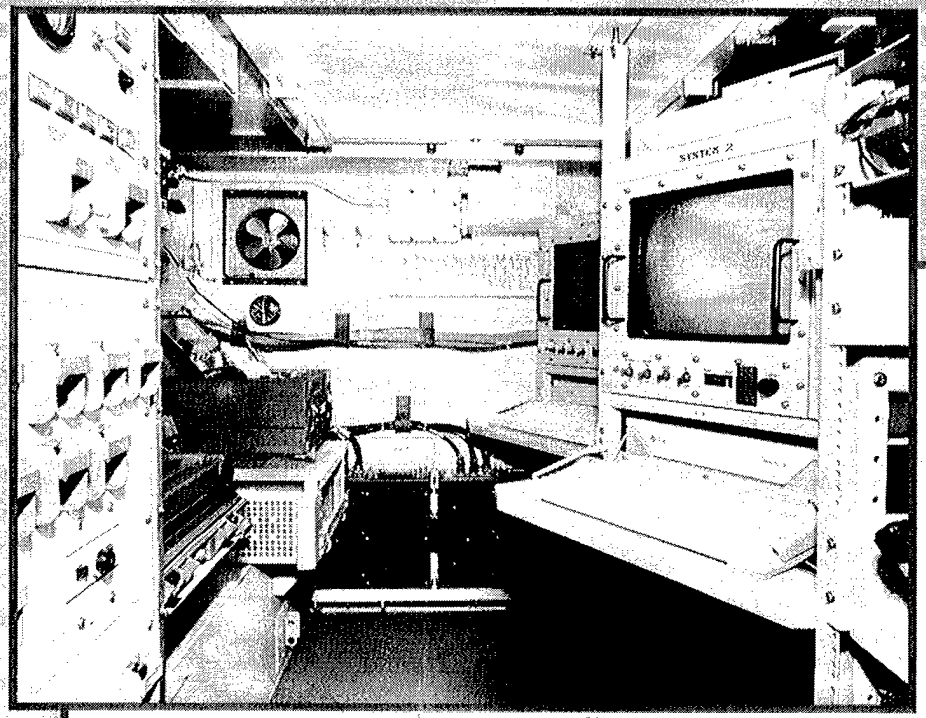
FOREIGN COUNTERPART: Numerous countries possess airborne electronic warfare systems, but none achieves the direction-finding accuracy of the Guardrail system.

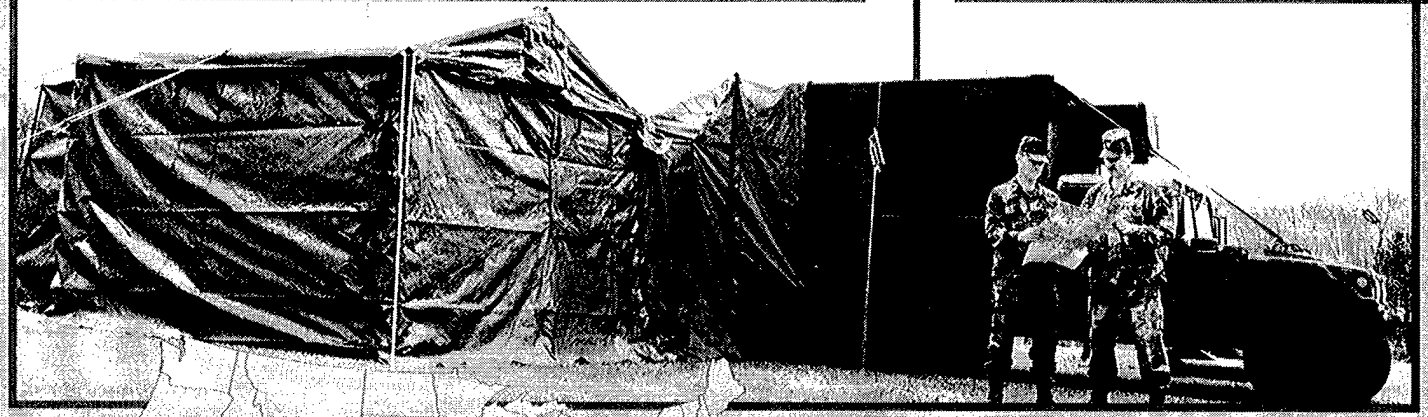
PROGRAM STATUS: The Guardrail systems currently in service include the Improved Guardrail V (RC-12D), the Guardrail Common Sensor (RC-12H aircraft), and the Guardrail Common Sensor (RC-12K/N/P aircraft). Guardrail Common Sensor (GRCS) combines the Improved Guardrail V (IGRV) Communication Intelligence (COMINT) sensor package with the Advanced Quicklook electronics signals (ELINT) intercept, classification, and direction-finding capability, and a Communication High Accuracy Airborne Location System (CHAALS). GRCS was fielded to Korea in 1988, Europe in 1991, and the XVIII Corps in 1994. A remote relay capability that allows forward deployment of aircraft while the ground processing facility remains in CONUS was a component part of the XVIII ABN Corps System. The last GRCS system is in the Engineering and Manufacturing Development phase and will be fielded in FY97. GRCS shares technology with the Ground-Based Common Sensor, Airborne Reconnaissance Low, and other airborne systems.

PROJECTED ACTIVITIES:
Direct Air-To-Satellite Relay Critical Design Review.
Upgrade System 3 with CHAALS and ELINT capabilities.
Incorporate Interoperability Upgrades to all four systems.

PRIME CONTRACTOR:
TRW Inc. (Sunnyvale, CA)
Raytheon (Raytheon Aircraft) (Wichita, KS)

* See appendix for list of contractors.





Win Information War

MISSION: The ISYSCON provides an automated, theater-wide system that Signal units can use to manage multiple tactical communications systems in support of battlefield operations.

CHARACTERISTICS: ISYSCON represents the Signal Corps' major thrust to overcome network management problems identified during Operation Desert Storm and other recent deployments. The ISYSCON facility will provide an automated, integrated method for managing the tactical communications network, establish an interface with each technical control facility in the Army Tactical Command and Control System (ATCCS) architecture, and enable automation-assisted configuration and management of a dynamic battlefield. A change to the requirements document has added planning and management of satellite resources as a requirement. The ISYSCON has been selected as the network management system for joint task force use. The spectrum management software has been designated as part of the migration system for DoD use. An ISYSCON node consists of an S-250 shelter on a heavy HMMWV and two extension tents, two server and four client workstations, and peripherals. An ISYSCON node can support up to 20 remote terminals distributed by the S3 to various Signal officers. (Each ISYSCON node will be provided with 10 remote terminals.) Signal S-3 staffs will use ISYSCON to manage Army and JTF tactical battlefield information systems for both deployed and split-based operations.

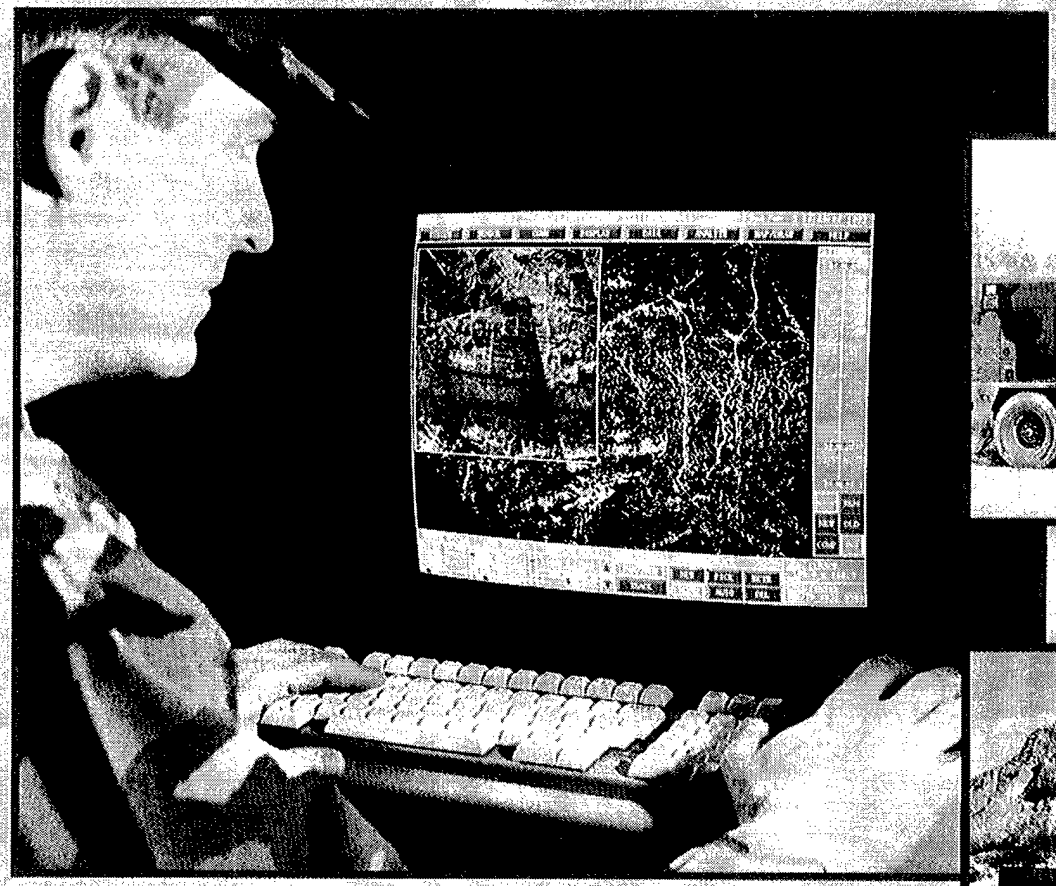
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The ISYSCON contract was awarded to GTE Government Systems in 4QFY92. The program was approved to enter Low Rate Initial Production (LRIP) in 3QFY95, and is headed towards the Development Progress Review (DPR). Phase 1 (ECB) capability is anticipated to be fielded to select units in 4QFY97 for the IOT&E.

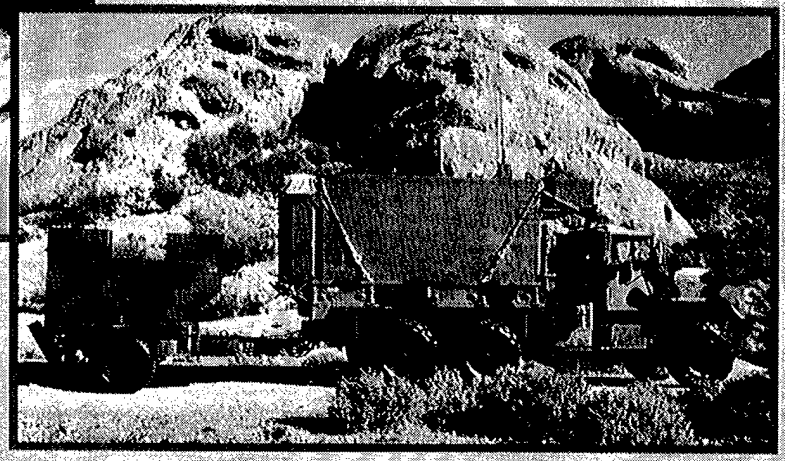
PROJECTED ACTIVITIES: Development Progress Review (DPR) for Phase I is scheduled for 1QFY96.
Phase 1 Beta testing is scheduled for 2QFY96.
Phase 1 ATCCS interface initial Operational Test & Evaluation (IOT&E) is scheduled for 1QFY97.
MS III Full Rate Production decision review is planned for 2QFY97. Production contract award will follow in 2QFY97.
Phase 2 follow-on Operational Test & Evaluation (FOT&E) is scheduled for 1QFY98.

PRIME CONTRACTOR: GTE (Taunton, MA; Raleigh, NC)

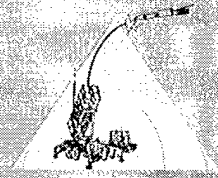
* See appendix for list of subcontractors.



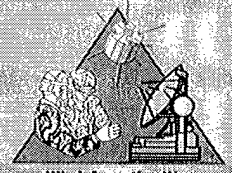
Joint STARS GSM, Light



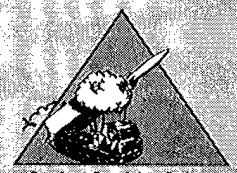
Joint STARS GSM, Medium



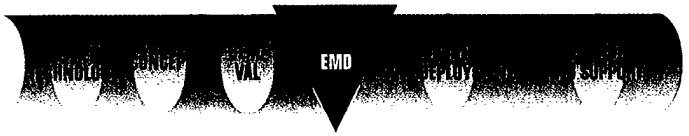
Protect The Force



Win Information War



Conduct Precision Strikes



MISSION: The Joint Surveillance Target Attack Radar System (Joint STARS) Ground Station Module (GSM) provides long-range radar and other sensor surveillance battle management and targeting data to tactical commanders.

CHARACTERISTICS: Joint STARS is a joint Air Force/Army program. The airborne platform is a USAF E-8 (a militarized Boeing 707) with a multi-mode radar (capable of wide area surveillance and synthetic aperture modes), 18 operation and control consoles, a Surveillance and Control Data Link (SCDL), and secure communications. Orbiting a safe distance from the Forward Line of Troops (FLOT), Joint STARS radar scans a wide area of the battlefield at long ranges. The radar data are received by Air Force and Army operators aboard the aircraft and then downlinked to multiple GSMs via the SCDL. The information provides tactical air and ground commanders with near-real-time wide area surveillance and deep targeting data. The Joint STARS system can detect, locate, track, classify, and assist in attacking both fixed and moving targets beyond the FLOT during daylight and darkness in nearly all weather conditions.

The GSM is a mobile, tactical, multisensor ground station that receives, displays, processes, and disseminates targeting battle management and intelligence information to all echelons. In addition to Joint STARS radar data, the GSM is now capable of receiving and displaying Unmanned Aerial Vehicle (UAV) imagery as well as signals intelligence data via an integrated Joint Tactical Terminal (JTT).The GSM is being produced in two variants: a medium version (MGSM) mounted on a 5-ton truck and a light version (LGSM) mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV). The Common Ground Station (CGS) will be a light version mounted on a HMMWV. Beginning in FY96, the GSM will transition into the Common Ground Station (CGS) which will also be HMMWV mounted. The CGS will be a key node on the digitized battlefield, receiving multiple national, theater, and tactical sensor input.

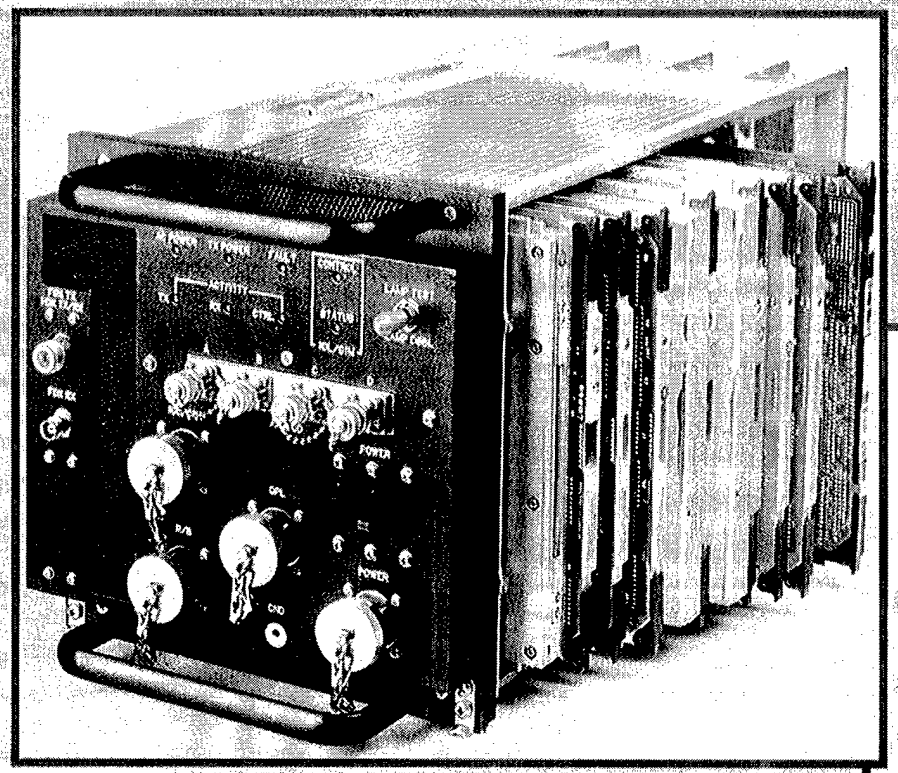
FOREIGN COUNTERPART: Britain: Astor France: Horizon Italy: Creso

PROGRAM STATUS: The Joint STARS GSM is in Low Rate Initial Production (LRIP). Six Interim GSMs (IGSM) have been fielded to contingency forces. The first MGSM LRIPs will be fielded during 2QFY96. The LGSM LRIPs are scheduled for an FY97 fielding. The CGS Production Contract is scheduled for award 1QFY96 with initial fielding in FY98.

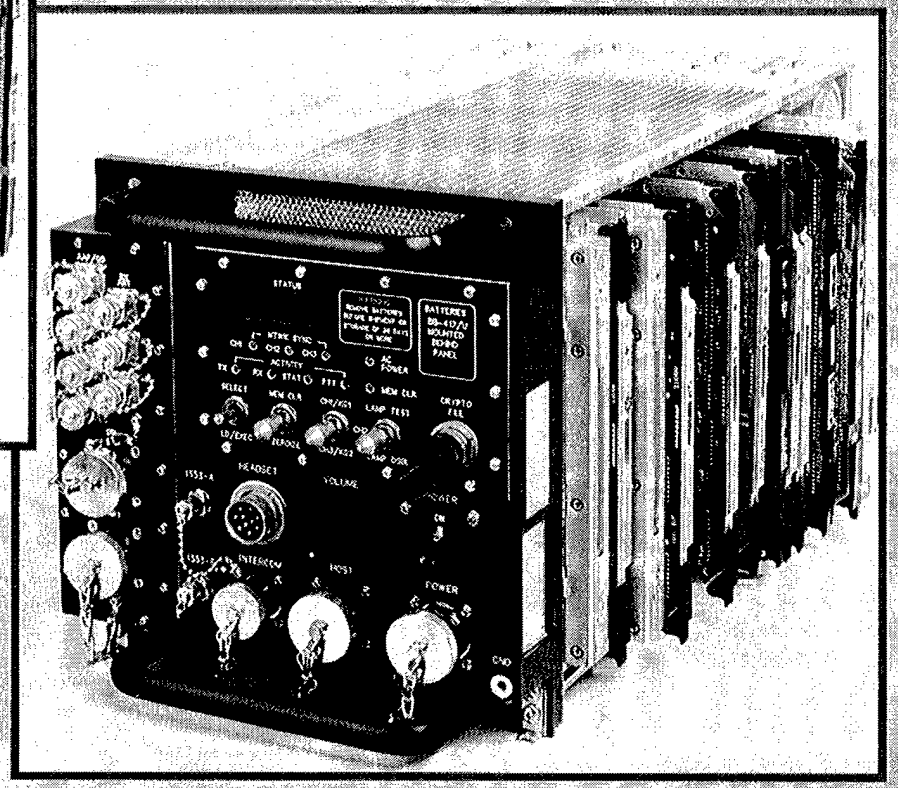
PROJECTED ACTIVITIES: A Multiservice Operational Test for the Air Force and the Army is scheduled to start 1QFY96. A Follow-on Operational Test of the initial CGS units is planned for 4QFY97. The CGS Full Production (Milestone III) Decision is scheduled for FY98.

PRIME CONTRACTOR: GSM: Motorola (Scottsdale, AZ)
Aircraft: Northrop-Grumman (Melbourne, FL)
Datalink: CUBIC Defense Systems (San Diego, CA)
CGS: TBD

* See appendix for list of subcontractors.



JTT3 Radio, Receiver and Transmitter



JTT3 Red/Black Processor

MISSION: The Joint Tactical Terminal (JTT), formerly known as CTT, provides the joint war-fighter with seamless, near-real-time tactical intelligence and targeting information.

CHARACTERISTICS: The JTT provides the critical data link to battle managers, intelligence centers, air defense, fire support and aviation nodes across all services. JTT allows Army, Air Force, Navy and Marine Corps users to exploit intelligence broadcast networks, including: Tactical Reconnaissance Intelligence Exchange Service (TRIXS), Tactical Information Broadcast Service (TIBS), Tactical Related Applications (TRAP), Tactical Data Information Exchange System-B (TADIXS-B) and Secondary Imagery Dissemination (SID) via a General Purpose Link (GPL) In addition to receiving intelligence data, JTT functions as a data provider terminal or relay.

The JTT is provided for integration into systems on vehicles, aircraft, ships, and fixed sites. Two Channel JTT receives data simultaneously on two networks and is packaged in a rugged 3/4ATR. The Three Channel JTT operates simultaneously on three networks and comes in two models; the full-duplex JTT/H3 and the receive only version JTT/HR3.

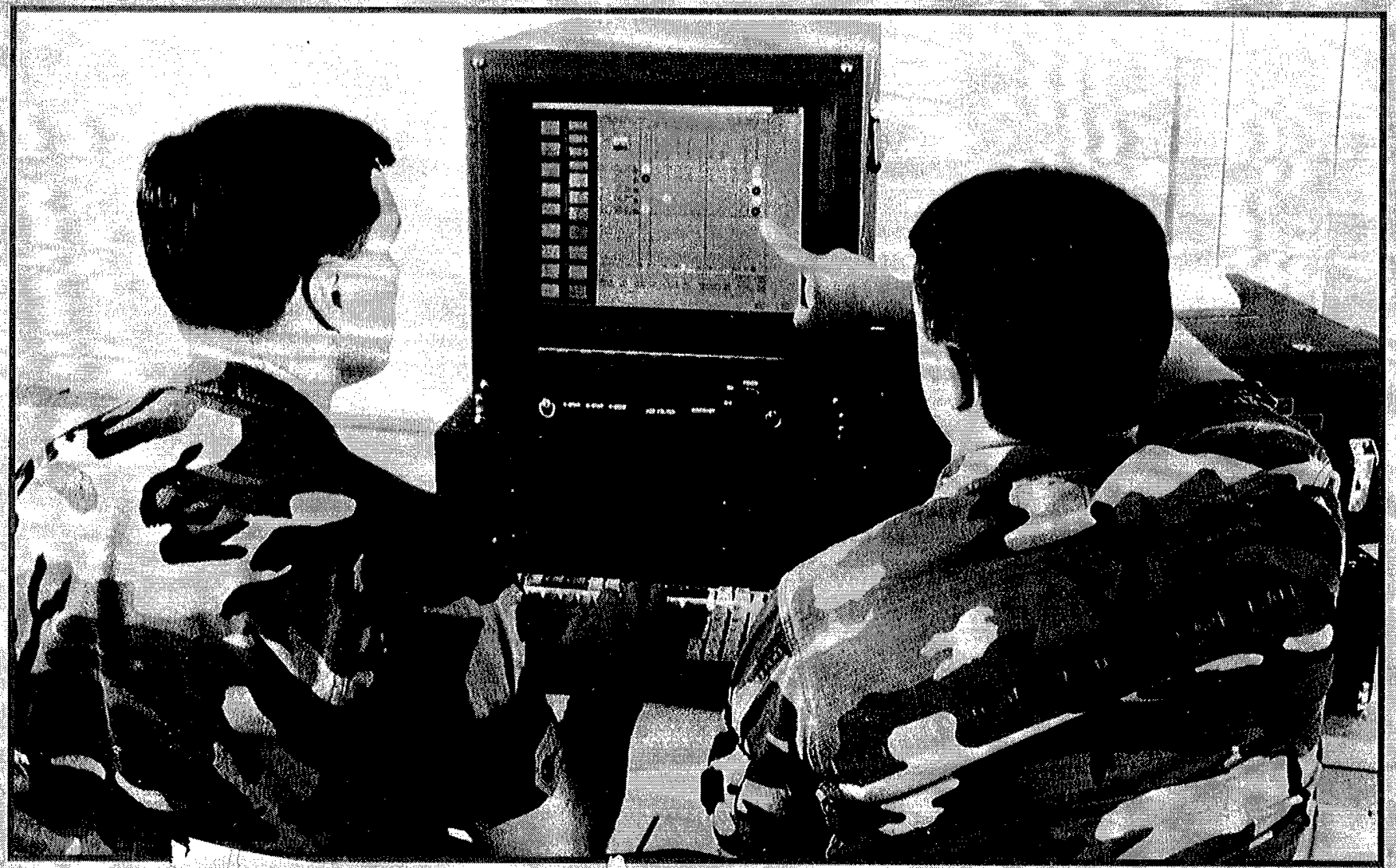
FOREIGN COUNTERPART: No known foreign counterpart.

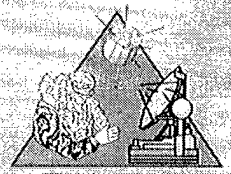
PROGRAM STATUS: Fielding of the One Channel is complete. One hundred and eighty JTT Two Channel receivers have been delivered to various elements within the Army, Air Force, Navy, Marine Corps and Special Operating Forces, and fielding continues.

PROJECTED ACTIVITIES: Three Channel Follow-on Production Award is scheduled for 1QFY96. Initial Three Channel JTT will be available for integration into host systems beginning 2QFY96.

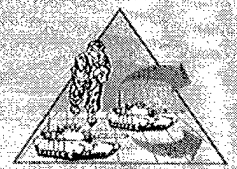
PRIME CONTRACTOR: E-Systems (ECI Division) (St. Petersburg, FL)

*See appendix for list of subcontractors.

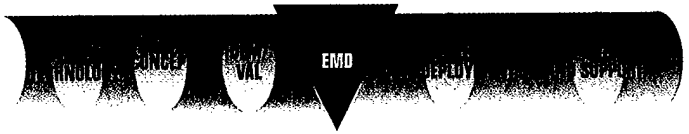




Win Information War



Dominate The Maneuver Battle



MISSION: MCS provides Army tactical commanders and their staffs (corps through brigade) automated, on-line, near-real-time systems for planning, coordinating, and controlling tactical operations. It automates the creation and distribution of the common picture of the battlefield for the Army Battle Command System (ABCS).

CHARACTERISTICS: MCS provides automated command and control (C2) for the Force Level Commander. It integrates information from other BFA C2 systems to provide timely accurate status of battle information. V 12 of MCS will provide the initial implementation of the Common Operating Environment (COE) and evolution to the Army Battle Command System. MCS will be fielded on CHS-2 hardware and will implement a client/server architecture.

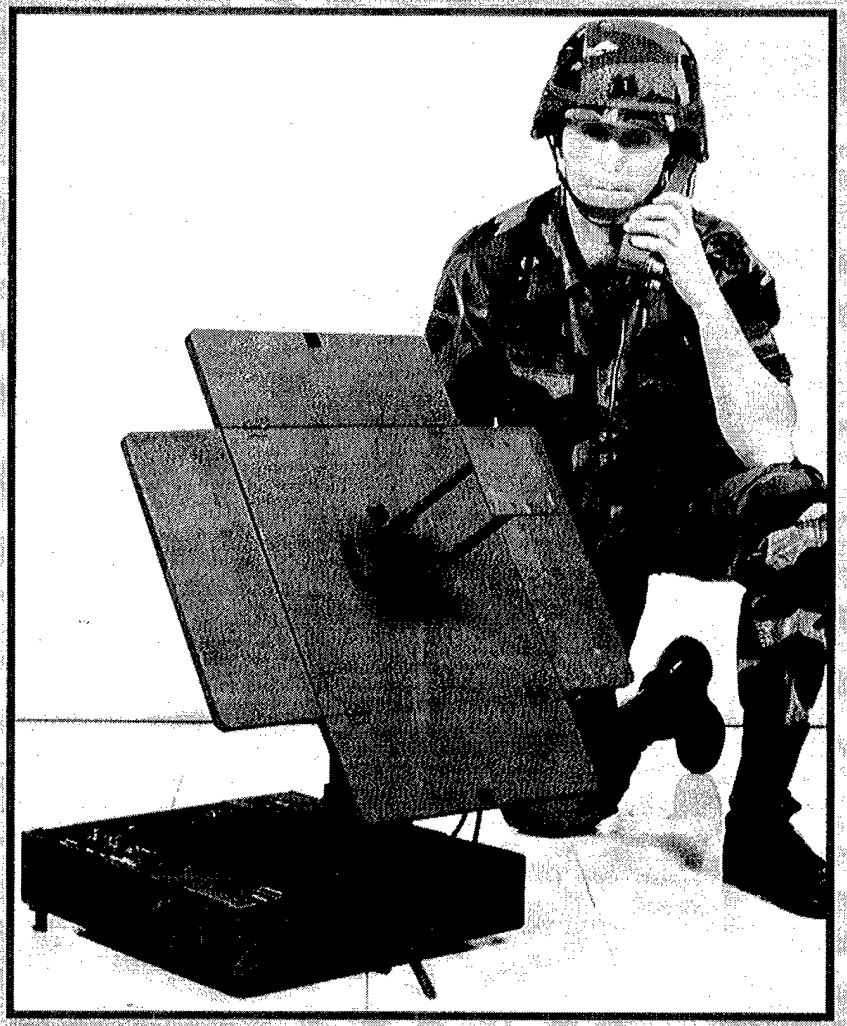
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: Currently, MCS Version 10.03.1G software is fielded to all heavy Army units with Non-Developmental Item equipment.

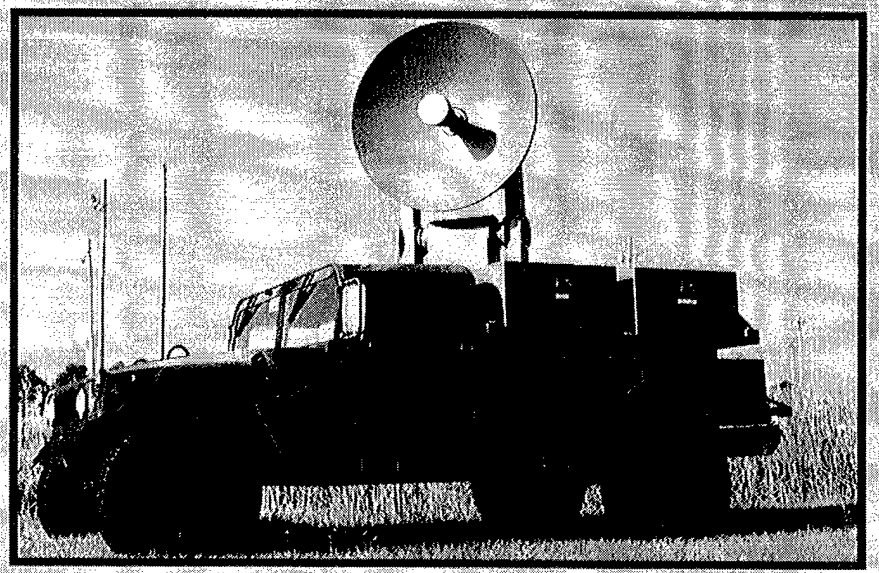
PROJECTED ACTIVITIES:
MCSV.12.01 Software Initial Operational Test and Evaluation (IOTE) is scheduled for November 1996.
Block IV Development Contract Award scheduled 4QFY96.
Participate in Task Force XXI 2QFY97.
Fielding MCS 12.01 with CHS-2 scheduled to begin in FY98.

PRIME CONTRACTOR:
Block IV contractor—TBD
ESC (Eatontown, NJ)
Mitre (Eatontown, NJ)
GTE (Telos) (Shrewsbury, NJ)
GTE (Taunton, MA)

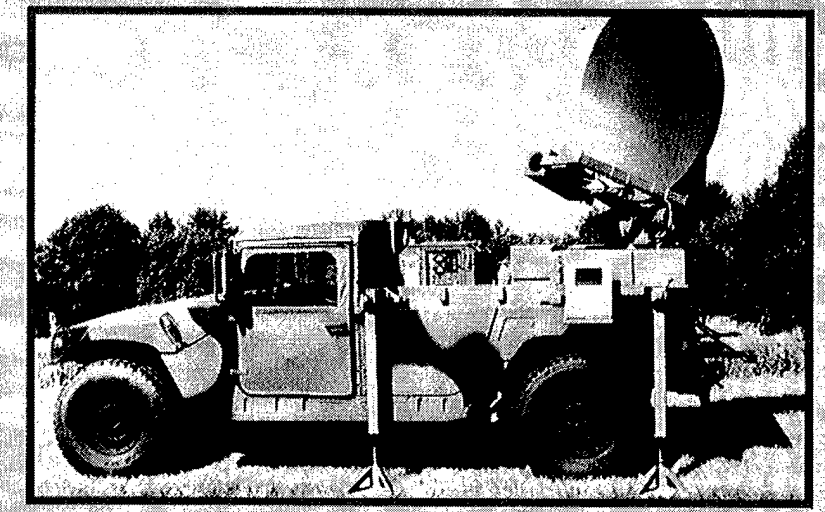
* See appendix for list of subcontractors.



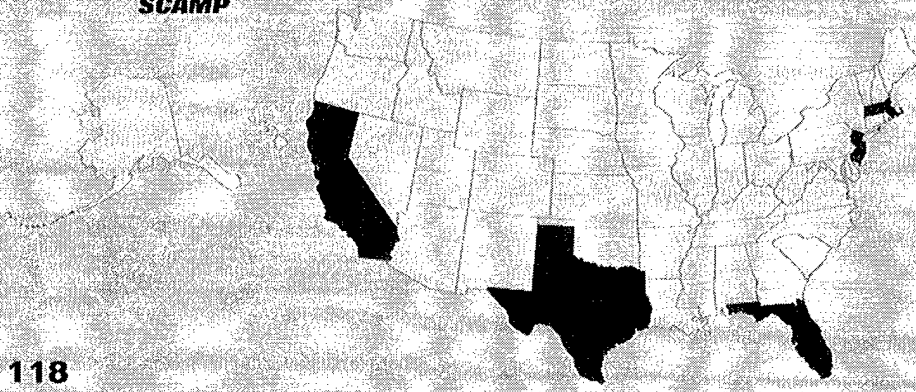
SCAMP



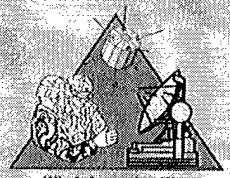
SMART-T Milstar



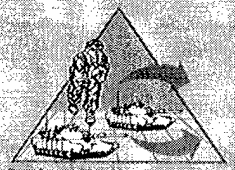
SMART-T Milstar



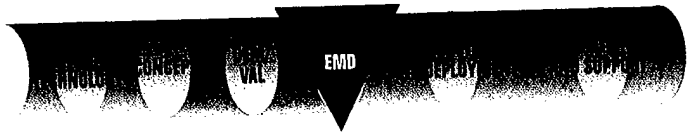
Project & Sustain



Win Information War



Dominate The Maneuver Battle



MISSION: Milstar satisfies the Army tactical warfighter and JCS-validated command, control, communications, and intelligence requirements supporting the President, National Command Authority (NCA), all Military Departments, and the Intelligence Community.

CHARACTERISTICS: The terminal equipment uses various DoD Satellite Communications (SATCOM) systems, including the Fleet Satellite Extremely High Frequency (EHF) Package, Navy Ultra-High Frequency (UHF) Follow-On (UFO) satellite, and Milstar satellites. This equipment supports the Army operations concept by providing assured, LDP/LPI uninterrupted communications beyond the line-of-sight capability for our advancing tactical forces. The Milstar system consists of mobile and manportable tactical satellite communications terminals and fixed strategic terminals.

PROGRAM STATUS:

SMART-T:
- FY95 program reassessment approved by AAE 26 Oct. 94.
- Acquisition strategy and approved Acquisition Program Baseline remain intact.
- Three of the four exit criteria for entering Low Rate Initial Production (LRIP) have been met fourth criteria to be met 1QFY96.
- Contractor Technical Test completed 1QFY96.
- Downselect for LRIP scheduled for2Q FY96, source selection in process.

SCAMP:
- FY95 program restructure approved by AAE 26 October 1994.
- MS III decision 15 November 1994, full and open competition.
- Demonstrations/evaluations of offerors terminals underway. Source selection in process.

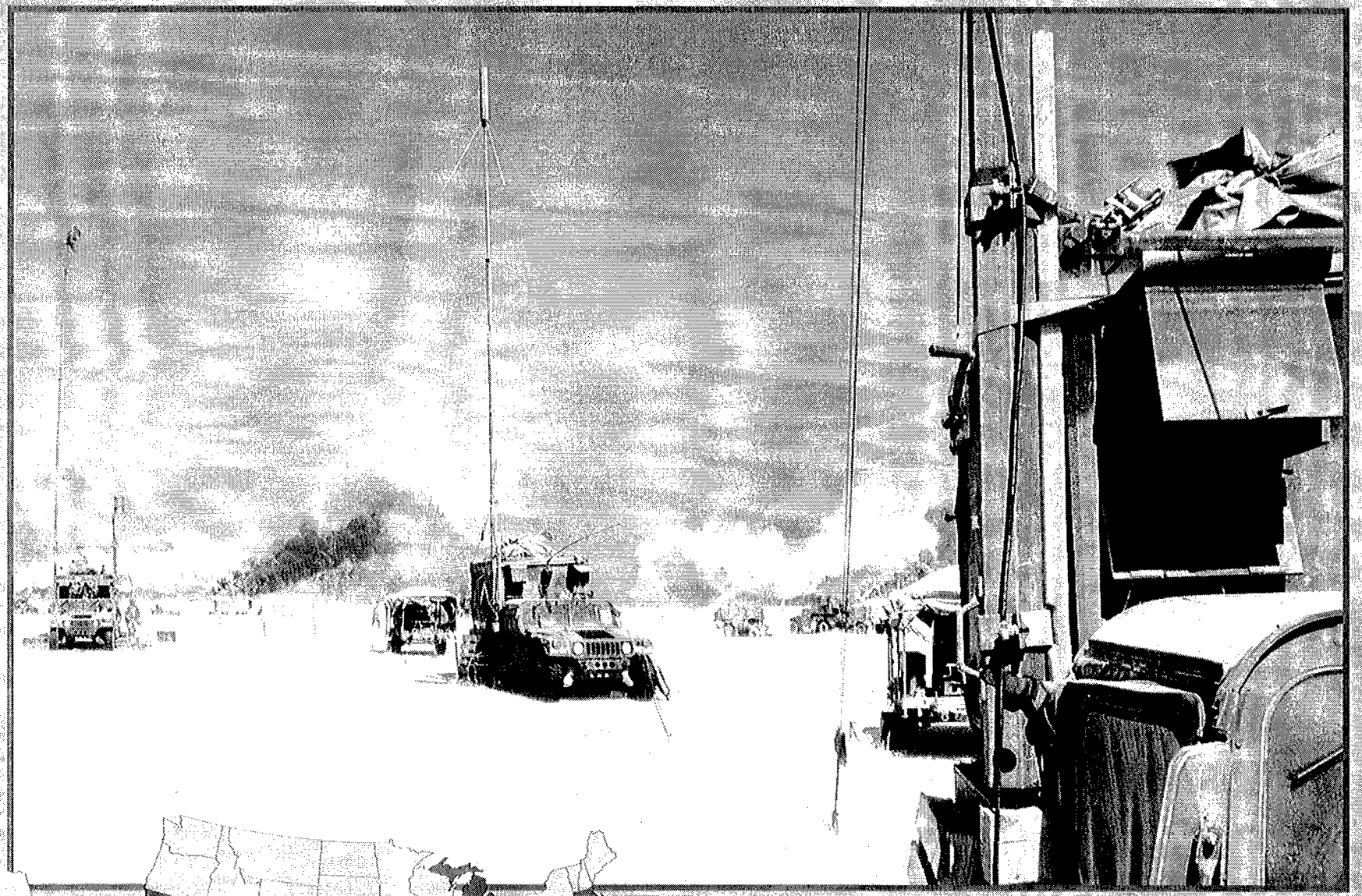
PROJECTED ACTIVITIES:

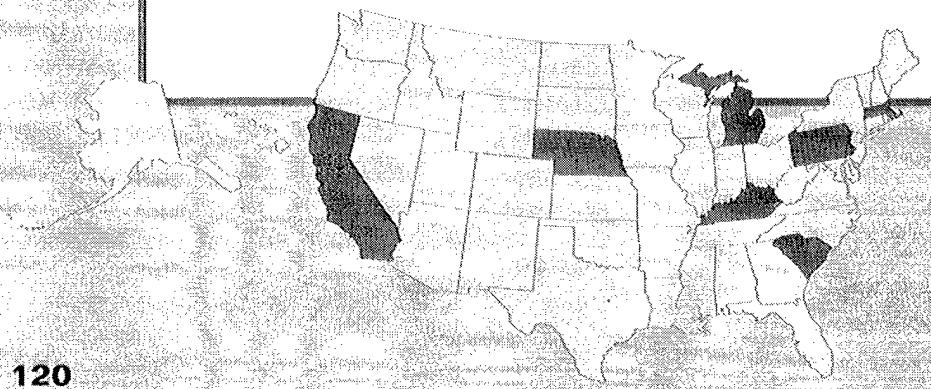
SMART-T:
- Complete Contractor Technical Test of EDM terminals
- Prepare for FY96 LRIP Decision Review.
- Award LRIP 2QFY96.

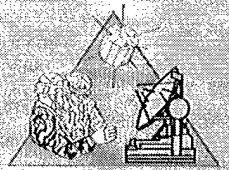
SCAMP:
- Award Full Scale Production Contract 2QFY96.
- Conduct Engineering Feasibility Efforts to support a future Block II Program.

PRIME CONTRACTOR: SMART-T: Rockwell International (Richardson, TX), Raytheon (Marlboro, MA)
SCAMP Block I: TBD

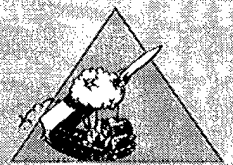
*See appendix for list of subcontractors.







Win Information War



Conduct Precision Strikes

MISSION: MSE provides the tactical U.S. Army commander with a secure, automatic, highly mobile, quickly deployable, survivable, tactical communications system capable of passing data, facsimile, and voice traffic throughout the division and corps area of operations.

CHARACTERISTICS: The major items of equipment are integrated into five functional areas. Subscriber Terminals provide the voice and data elements to interface with other functional areas of the MSE system. Mobile Subscriber Access radiotelephone terminals permit mobile and stationary users to automatically communicate secure voice and data throughout the tactical area of operations. Wire Subscriber Access allows nonradio users entry to the MSE system through concentrations of automatic switching equipment. Area coverage of the battlefield from mobile or fixed locations is achieved through secure automatic switching, continuous coverage, and the ability of commanders and staff to retain the same telephone number regardless of location. System Control provides an automated Corps-wide MSE system management capability, which is itself mobile, moving with the elements it controls.

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: All Signal Battalions scheduled to receive MSE have been successfully fielded. Final unit fielding was completed in November 1993. An approved System Improvement Plan (SIP) is in place to provide technological upgrades that will improve system performance and extend the life of the equipment. A routing improvement program (CSRTEP) has been completed and tested and will provide a common software baseline foe MSE and most AN/TTC-39 A/D switches. Fielding of this upgrade commences 1QFY96.

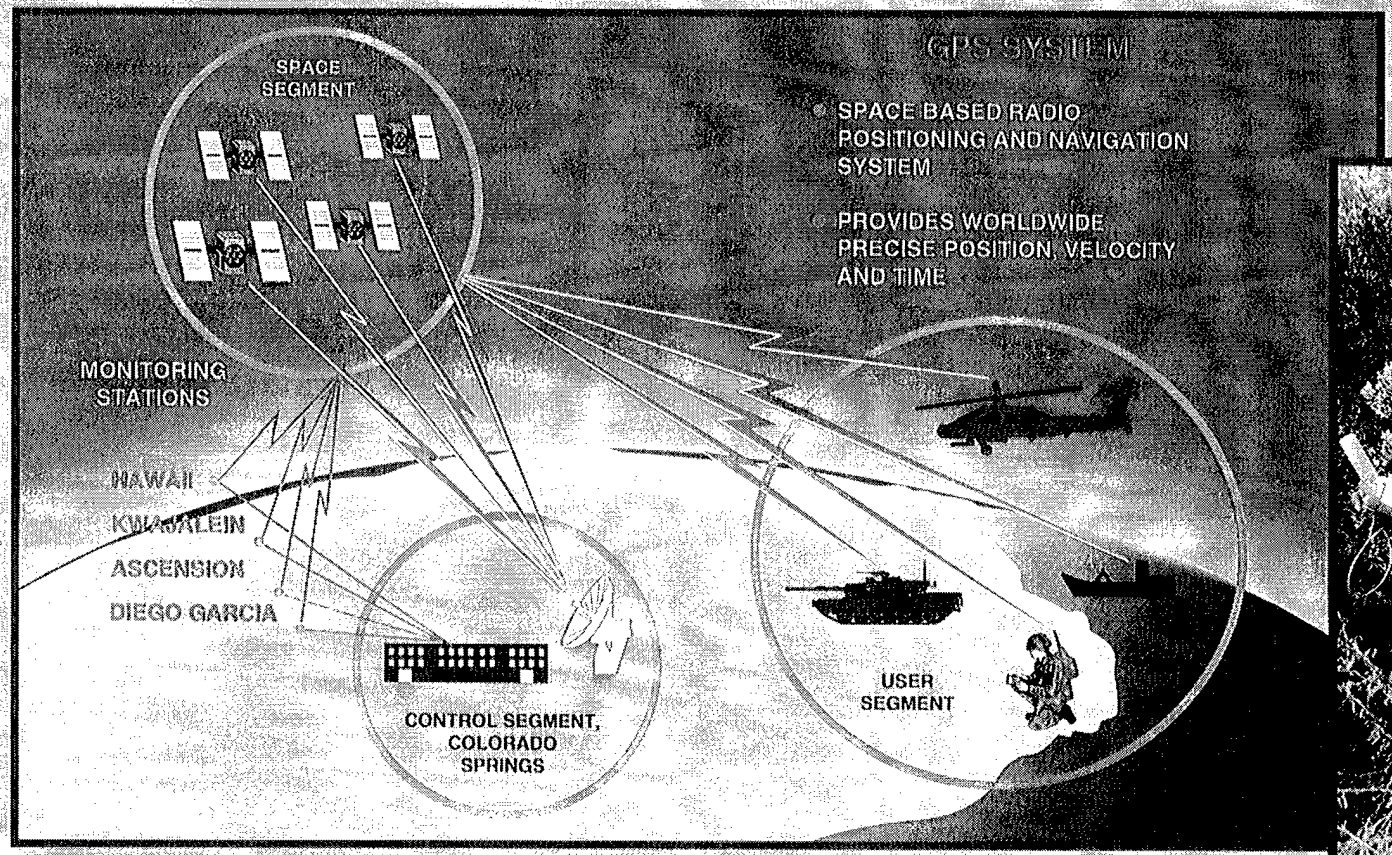
PROJECTED ACTIVITIES:
Enhanced Switch Operation Program (ESOP).
Packet Network Management Center Improvements.
Training Device Upgrade.
Network Management Tool Implementation.
Internet Protocol Router (BGP-4) Upgrade.
Field Routing Improvement Program (CSRTEP)
Incorporate video and Asynchronous Transfer Mode (ATM) capabilities.

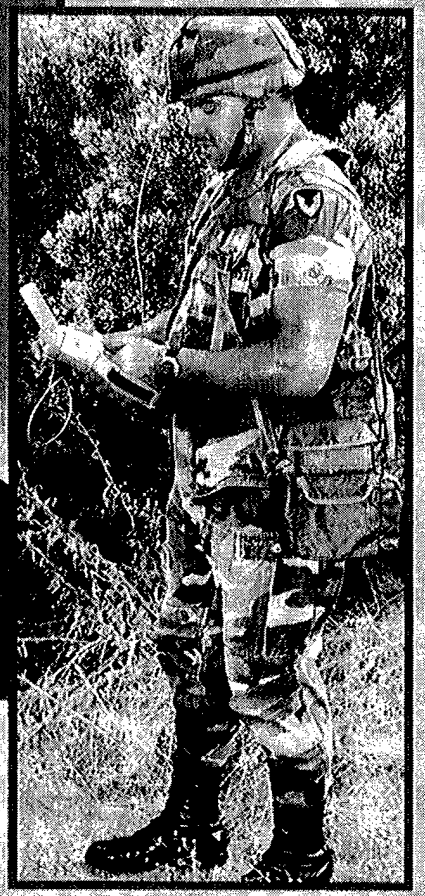
PRIME CONTRACTOR: GTE (Taunton, MA)

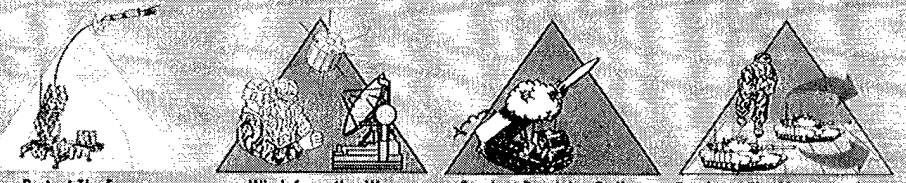
*See appendix for list of subcontractors.

GPS—Army User Equipment

GPS—System Overview







MISSION: The mission of NAVSTAR GPS is to provide accurate, continuous, all-weather, common grid, worldwide navigation, positioning, and timing information to land, sea, air, and space-based users.

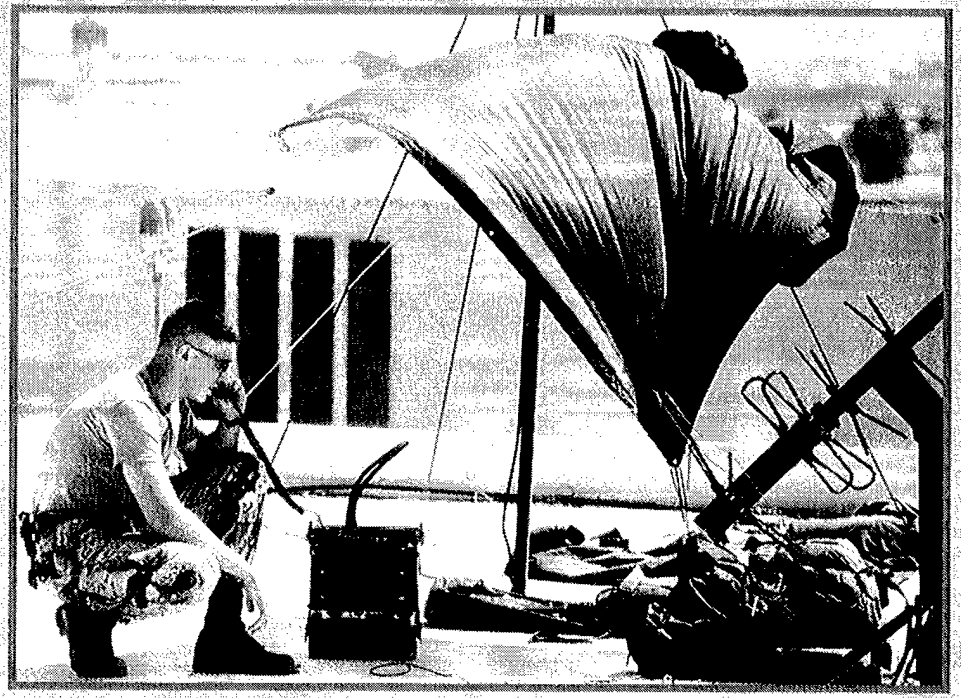
CHARACTERISTICS: The NAVSTAR GPS is a joint Army, Navy, and Air Force program, with the Air Force as the lead service. GPS is a space-based navigation, three-dimensional positioning, and time-distribution system. The GPS has three segments: a space segment, consisting of 24 satellites; a ground control segment; and a user segment. The Army is the lead service in the Joint Program Office (JPO) for the User Segment with approximately 80% of total DoD requirements. The user segment consists of receiver configurations for ground, aircraft and seacraft applications. The GPS receiver is a passive device that will be deployed extensively at all echelons and with Army aircraft.

FOREIGN COUNTERPART: The Russians have developed a similar system, GLONASS, but insufficient data are available to permit a meaningful comparison to GPS.

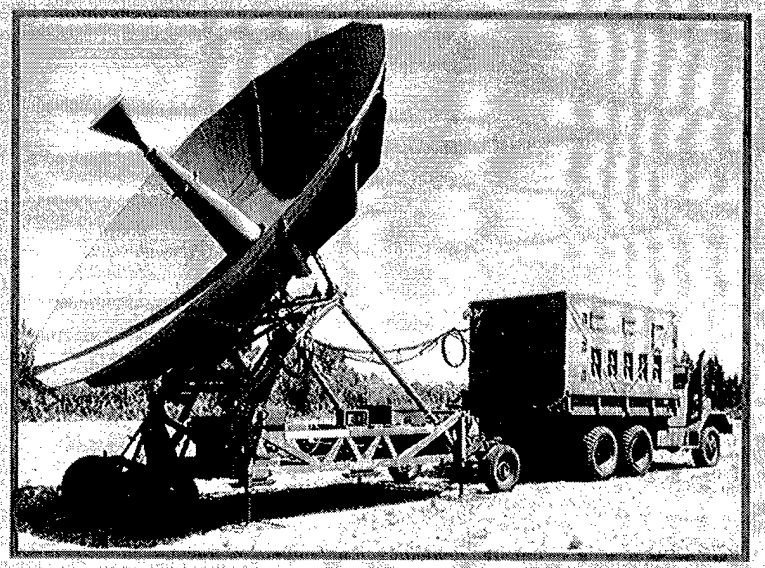
PROGRAM STATUS: Two production options have been awarded in February 1994 and March 1995. The Army has acquired 39,800 units to date and worldwide fielding has been ongoing since October 1993 on an accelerated basis. The PLGR enhancement was awarded May 1995 and provides Army users with the following: 50% lower power consumption, improved ease of use, automatic leg advance, updated datums, enhanced satellite vehicle selection for reduced re-acquisition time, magnetic variance entry/display improvements, larger user defined screens, more routes and legs, auto zeroized warning, and present position naming. As SLGRs are rapidly displaced by the objective PLGRs, SLGRs will be upgraded to PPS accuracy and reallocated as inexpensive receivers for the non-modernized rotary wing fleet. The Miniaturized Airborne GPS Receivers, the AN/ASN-149 and GPS embedded in AN/ASN-128/G and INS are the near term solutions for modernized aircraft fleet. The Cargo Utility GPS Receiver (CUGR) will be the objective solution for UH-1 aircraft.

PROJECTED ACTIVITIES: PM GPS will complete fielding of PLGR to most major Active Army elements during FY96. Total PLGR fielding for FY96 is approximately 11,500. Option 3 award for MAGR is scheduled for March 1996. A contract award for CUGR is scheduled for May 1996.

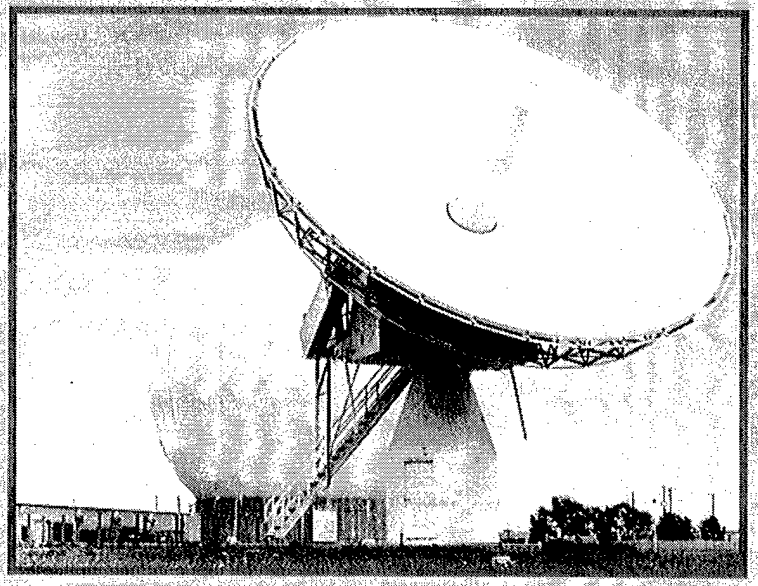
PRIME CONTRACTOR: Rockwell International (Cedar Rapids, IA)



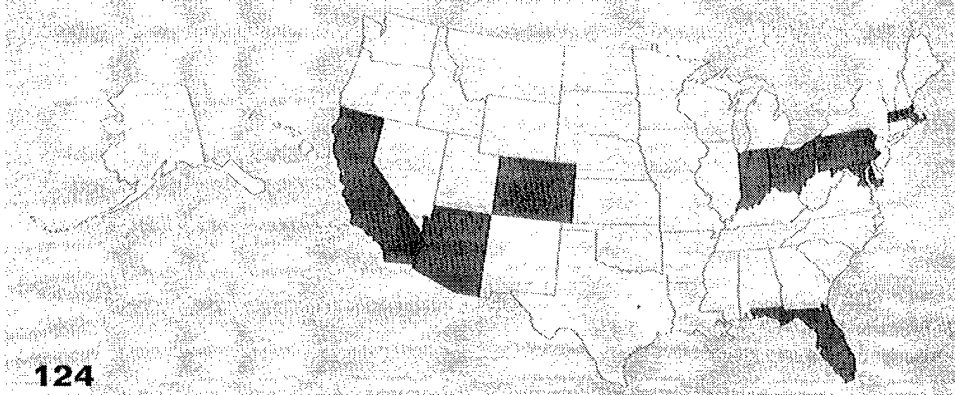
SATCOM Tactical Manpacks



SATCOM Tactical Terminals



SATCOM Strategic Terminals



Win Information War

MISSION: The mission of SATCOM is to satisfy JCS-validated Command, Control, Communications, Computers, and Intelligence (C4I) requirements supporting the President, National Command Authority (NCA), Commanders in Chief (CINC), Military Departments, Intelligence community, and NATO. Satellite communications provide the reach-back capability between the forward deployed force and the CONUS sustaining base required to support power projection.

CHARACTERISTICS: Fixed strategic, theater, and mobile tactical satellite (TACSAT) communications terminals characterize SATCOM. The satellite equipment uses all DoD SATCOM systems, including the Fleet Satellite/Air Force Satellite (FLTSAT/AFSAT) Ultra High Frequency (UHF) system UHF follow-on system and the Defense Satellite Communications System (DSCS) Super High Frequency (SHF) X-Band.

PROGRAM STATUS: The Army is procuring the Enhanced Man-pack UHF Terminal (EMUT) and related equipment in support of the Army, Air Force, Marine Corps, and Special Operations Forces (SOF) unit requirements for use on FLTSAT/AFSAT/UHF follow-on. The EMUT has embed Communications Security (COMSEC) and demand-assigned, multiple-access capability. For SHF Tactical Satellite (TACSAT) Terminals, the Army will continue to test the new Prototype Tri-band Terminals, AN/TSC-143. These prototypes expand TACSAT capabilities because they are capable of using commercial C and Ku bands in addition to the existing DSCS X-Band. For the strategic DSCS, the Army will continue to modernize its heavy and medium fixed terminal facilities and transportable terminals, and modernize the light contingency terminals, provide digital equipment upgrades, and expand the control subsystem to enhance satellite and communications payload control operations.

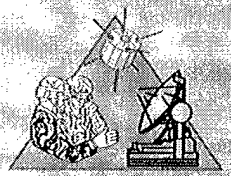
PROJECTED ACTIVITIES:

- Continue the modernization of all the fixed site AN/FSC-78/79 SATCOM terminals through FY99.
- Initiate the modernization of the AN/GSC-52 SATCOM terminals (fixed and transportable) in FY97.
- Initiate Universal Modem System (UMS) production and award contract in FY97.
- Continue on-going DSCS ground segment Control System upgrade in accordance with the Objective DSCS Operational Center Operational Requirements Document (ORD).
- Complete SHF Tri-band Range Extension Terminal (STAR-T) specification in accordance with ORD and finalize request for proposal (RFP).
- STAR-T will be a SHF SATCOM terminal mounted on a HMMWV which will eventually replace the AN/TSC-85B and AN/TSC-93B Tactical Satellite Terminals for the Army. Release solicitation and award the contract which will contain production options for the STAR-T.

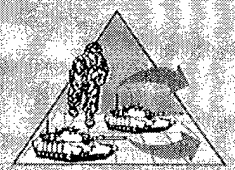
PRIME CONTRACTOR:

Lockheed Martin (Bethesda, MD)
Motorola (Scottsdale, AZ)
Harris (Melbourne, FL)
Titan (San Diego, CA)
Cincinnati Electronics (Cincinnati, OH)
Magnavox (Ft. Wayne, IN)
GTE (Taunton, MA)
Stanford Telecommunications (Colorado Springs, CO)

* See appendix for list of subcontractors.



Win Information War



Dominate The Maneuver Battle

MISSION: The SINCGARS provides commanders with a reliable, easily maintained Combat Net Radio (CNR) for command and control and provides Electronic Counter-Countermeasures (ECCM) against threat Electronic Warfare (EW).

CHARACTERISTICS: SINCGARS configurations include manpack, vehicular (both low and high power), and airborne models. COMSEC is integrated in currently produced versions of the ground and the airborne System Improvement Program (SIP) models.

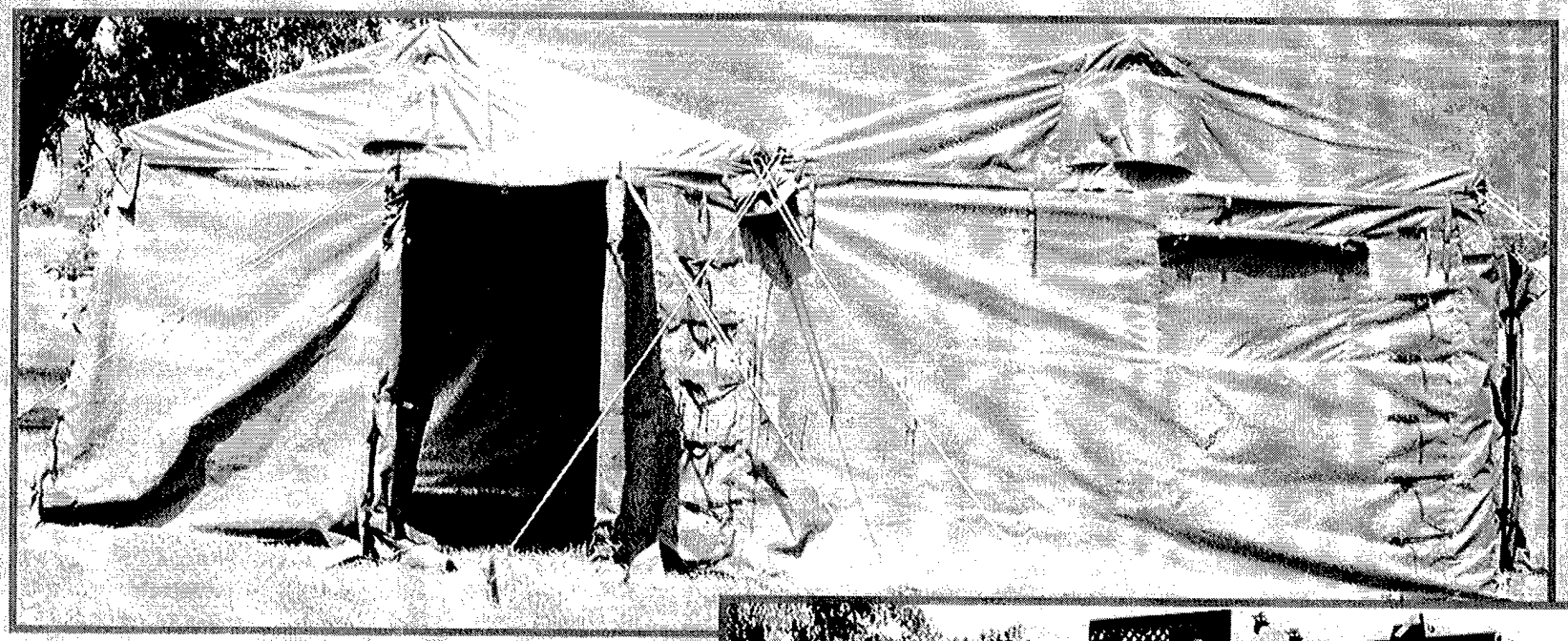
Weight:	22.5 lb w/battery and COMSEC
Frequency range:	30.000 to 87.975 MHz
Channels:	2,320
Range:	8-35 km

PROGRAM STATUS: First source (ITT) SINCGARS ground radios passed First Article Tests in January 1988, and production deliveries began immediately. A Follow-On Test and Evaluation (FOTE) was successfully completed in May 1988 on the non-integrated Communications Security (COMSEC) (non-ICOM) version of the radio. An Initial Operational Test and Evaluation (IOTE) and FOTE were successfully completed on the ICOM radio in November 1990. Award for Option 3 for 16,000 radios was made in June 1989. Option 4 for 16,000 radios was awarded in 1QFY91, completing the first-source contract of 44,100 ground radios. Subsequently, a new contract for first-source production was awarded for 16,000 radios in March 1992, with another 16,000 radio award in FY93. ITT is also the sole producer of the airborne SINCGARS, with contracts awarded for almost 6,361 units. A second-source of ground radios (General Dynamics) was selected in July 1988 and awarded a firm fixed price, base year contract for 400 radios. Second-source First Article Test was successfully completed in July 1992, and IOTE was successfully completed in February 1993. General Dynamics was awarded a Low-Rate Initial Production contract for an additional 7,500 ground radios. A second-source, full-scale production award for 12,000 radios was made in August 1993. Annual dual source limited competition began in FY94, with award in April 1994 of 17,053 units to ITT and 11,369 units to GDLS. FY95 limited competition awards were made in March 1995 for SIP radios, 18,601 to ITT and 15,219 to GDLS. These radios will provide improved data capability, improved forward error correction for low speed data modes, automated interface in the Automated Common User System and a Global Position System (GPS) interface and Internet Controller (INC) which allows SINCGARS to interface with EPLRS. Annual dual source limited competition will continue in FY96 and FY97. The program office has fielded more than 60,000 radios to the training base and Army units in EUSA (Korea), USARPAC, USAR, USAREUR, USARNG, and CONUS.

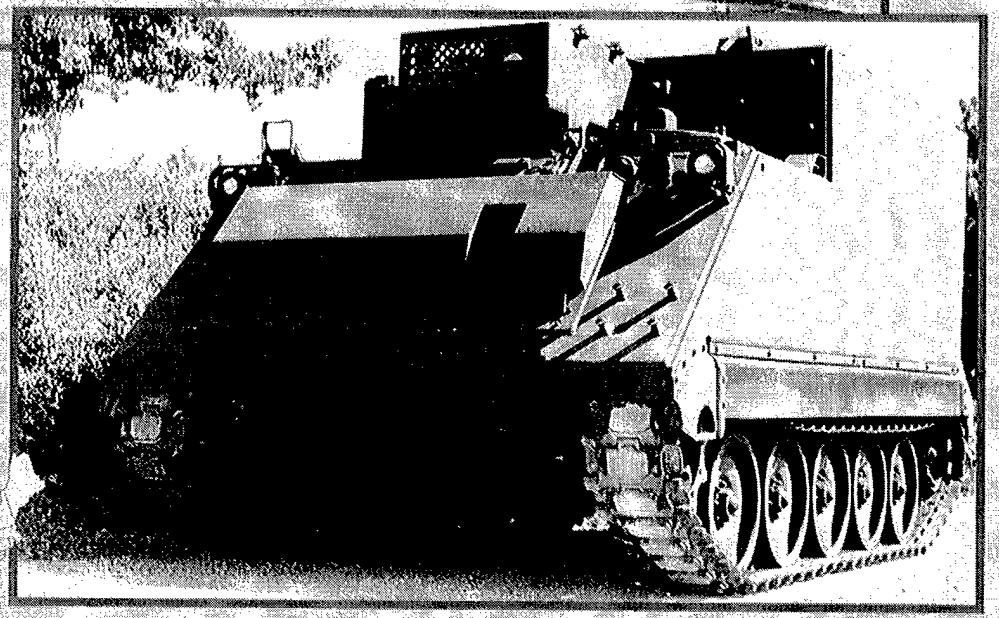
PROJECTED ACTIVITIES: Dual source limited competition awards have been made for SIP radios in March 1995. Next dual source limited competitive award is scheduled for 2QFY96.

PRIME CONTRACTOR: ITT (Ft. Wayne, IN)
General Dynamics (Tallahassee, FL)
Talla-Comm (Tallahassee, FL)

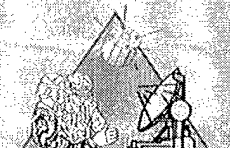
* See appendix for list of subcontractors.



Tent CP



Track Vehicle CP



Win Information War

Dominate The Maneuver Battle

MISSION: The SICPS is a family of command post facilities developed to house the Army Battle Command System (ABCS) across all battlefield functional areas. Variants of SICPS consist of a tent Command Post (CP), a Rigid Wall Shelter (RWS) CP, a Track Vehicle CP (M1068), a 5-Ton Expansible Van CP, and a Soft Top HMMWV CP.

CHARACTERISTICS: **Tent CP:** 11 ft x 11 ft with interchangeable sidewalls, any of which can be removed for combining two or more tents together; supported by a three-piece aluminum frame; fielded with two tables, two mapboards, and a fluorescent light set. The Tent CP can be attached to any of the other SICPS variants, except the 5-Ton Expansible Van CP, by replacing one sidewall with an interface wall.

Rigid Wall Shelter CP: Mounts on the HMMWV shelter carrier (M1097) and is integrated with a 5 kW power unit, a 9,000 Btu/hr environmental control unit, collective chemical/biological protection, equipment racks, power and signal import/export panels, wiring/cabling, vehicular intercom system, and operator seats for two command, control, communications, computers and intelligence (C^4I) workstations.

Track Vehicle CP: Modification of existing M577 command post vehicle to M1068 command post vehicle by addition of equipment racks, power and signal import/export panels wiring/cabling, vehicular intercom system, and operator seats for two C4I workstations.

5-Ton Expansible Van CP: Installation kit for existing unit vehicles (M934A2) to provide equipment racks, power and signal import/export panels wiring/cabling, and operator seats for up to four C^4I workstations.

Soft Top HMMWV CP: Installation kit for existing unit vehicles (M1097) to provide equipment racks, power and signal import/export panels wiring/cabling, and operator seats for two C^4I workstations.

FOREIGN COUNTERPART: No known foreign counterpart.

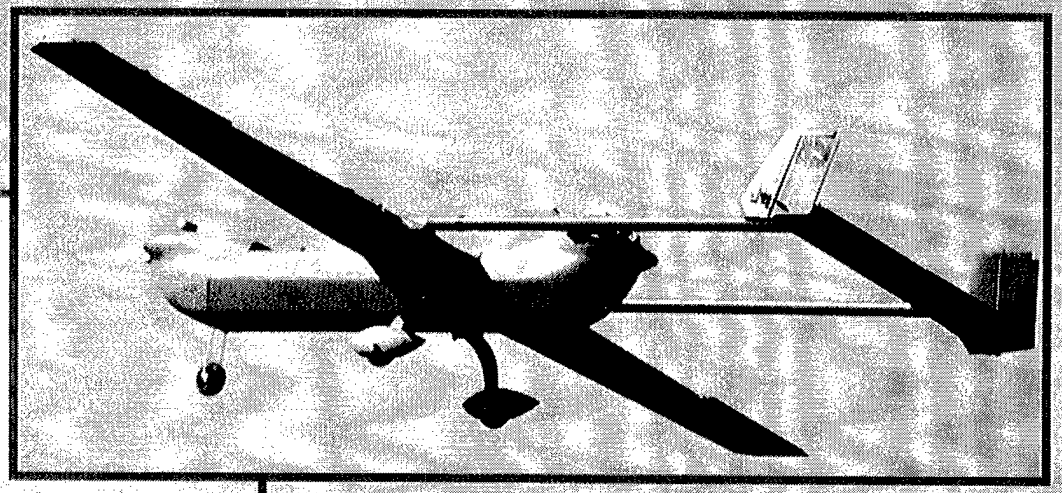
PROGRAM STATUS:

Tent CP:	Type Classified Standard–8 February 1990. The production contract was awarded in August 1991.
Rigid Wall Shelter CP:	Technical testing is ongoing for Version 3. Version 1 fielded.
Track CP:	The production contract was awarded in June 1992. Type classified standard 27 September 1995.
5-Ton Expansible Van CP:	Milestone III 2QFY96.
Soft Top HMMWV CP:	Milestone III/Type Classification Standard 1 August 1995; First delivery February 1996.

PROJECTED ACTIVITIES: Provide SICPS Rigid Wall Shelters M1068, 5-Ton, and Soft Top platforms to support BFA requirements.

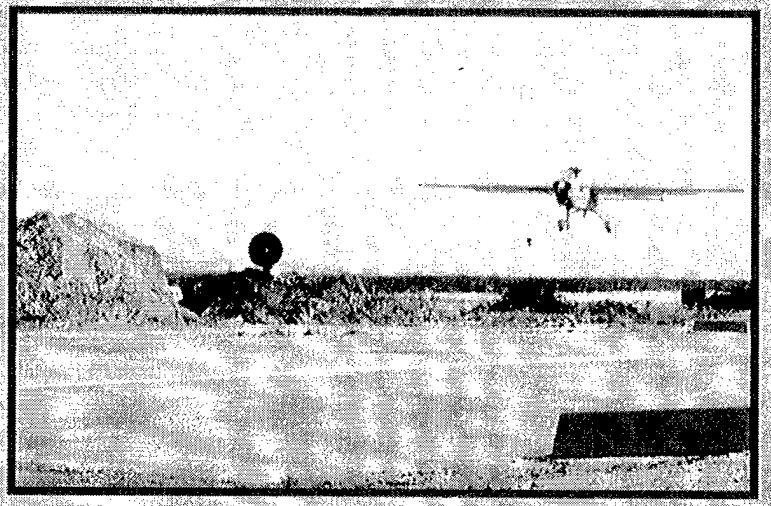
PRIME CONTRACTOR:
Camel (Knoxville, TN)
FMC Corp. (United Defense, LP) (San Jose, CA)
Brunswick (Marion, VA)
Gichner Systems Group (Hunt Valley, MD)
Letterkenny Army Depot (Letterkenny, PA)
Tobyhanna Army Depot (Tobyhanna, PA)

* See appendix for list of subcontractors



Tactical UAV

Ground Data Terminal (GDT)



Tactical UAV

MISSION: The Tactical Unmanned Aerial Vehicle will provide Reconnaissance, Surveillance, and Target Acquisition (RSTA) to U.S. Army Divisions and Brigades and to U.S. Marine Corps expeditionary brigades 60 km beyond the Forward Line of Own Troops (FLOT) and Navy datum points, day or night, and in limited adverse weather conditions.

CHARACTERISTICS: The Tactical UAV is intended for use in environments where real-time information feedback is needed, manned aircraft are unavailable, or excessive risk or other conditions render use of manned aircraft less than prudent. The Tactical UAV system consists of two Downsized Ground Control Stations (DGCSs); one Downsized Remote Video Terminals (RVTs); four Air Vehicles (AVs), Modular Mission Payloads (MMPs), two Downsized Ground Data Terminals (DGDTs), and launch and recovery equipment. The Downsized Control Station collects, processes, analyzes, and distributes digitized battlefield information by interfacing with present and planned Service Command, Control, Communications, and Intelligence (C3I) systems. Flight and mission commands are sent to the AV(s) from the DGCS. RSTA imagery and AV position data are sent by downlink directly to the DGCS or RVTs located in tactical operations centers. Mission capability will be enhanced as advanced mission payloads become available, maximizing battlefield digitization to increase the effectiveness of other weapon systems.

FOREIGN COUNTERPART: Israel has considerable experience with UAVs; however, requirements and specifications of the Tactical UAV make it unique.

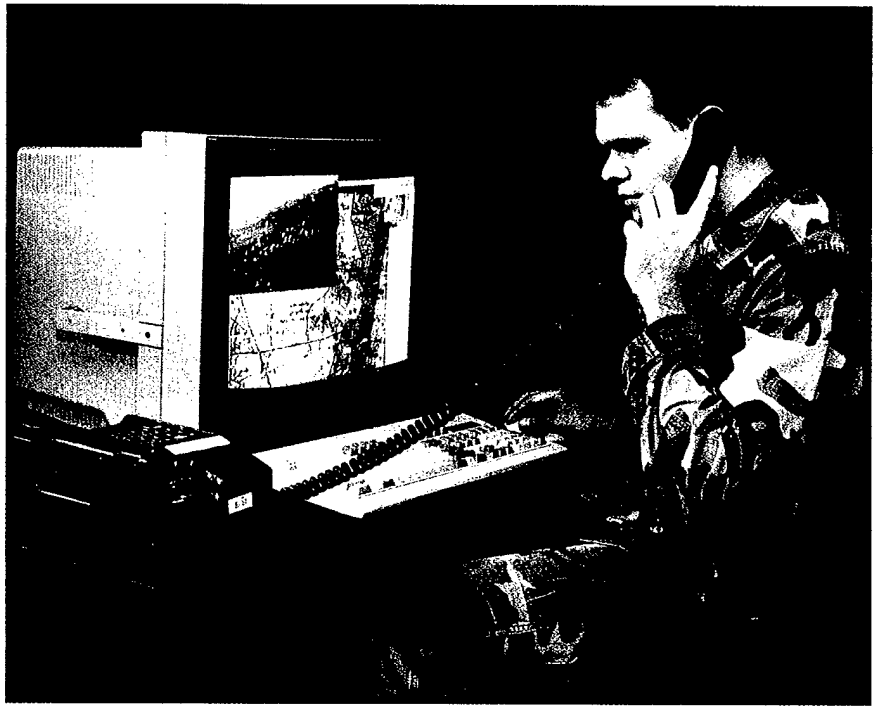
PROGRAM STATUS: Effort is ongoing to upgrade sensor platforms, navigation sub-systems, software (ADA) conversion, heavy fuel engine, and an automated launch and recovery system. The first system intended for operational use was delivered for acceptance in October 1994.

PROJECTED ACTIVITIES: A Maturation and Operational Risk Reduction Phase has been included in FY95 in cooperation with the contractor, developer/producer and user community.

PRIME CONTRACTOR(S): TBD.

DIGITAL BATTLEFIELD COMMUNICATIONS ATD (95 – 99):

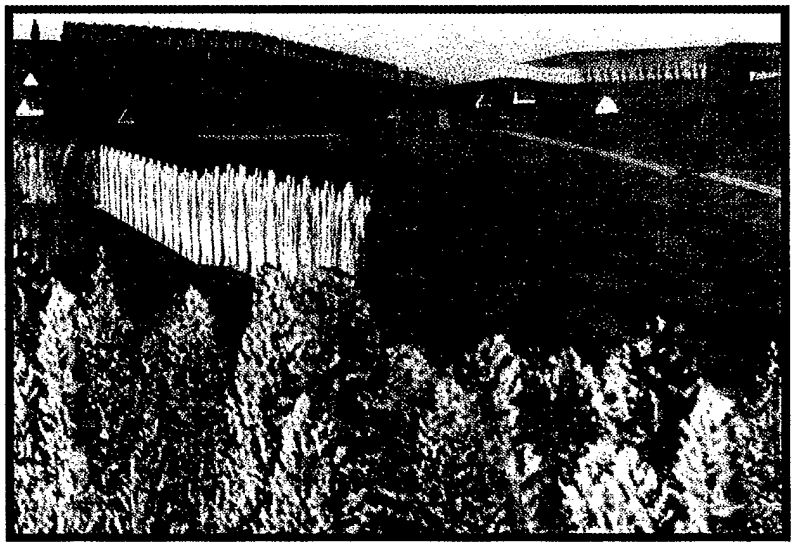
The objective of this program is to integrate communications hardware and software that will provide seamless, multimedia communications able to meet requirements for high capacity, on-the-move information exchange across the digitized battlefield. Extensive use of modeling and simulation will be employed. High throughput radio applications will be developed to solve data congestion problems. Internetwork planning tools will be developed to provide reliable C3. The architecture will include a Radio Access Point (RAP) to provide high bandwidth data distribution to lower echelon units on-the-move. Network planning and communications simulation technologies will provide bandwidth control based on assets, priority, environment, and reliability. A mobile RAP, consisting of a trunk radio, portable switch (ATM or other), and multi-band software-configured radio, will be prototyped and exercised by troops in the field. Development of on-the-move satellite communication technologies will be extended to provide fieldable, low-profile antennas better suited to connect forward mobile elements in split-base deployments. By FY99, this program will demonstrate adaptive internetwork control applications, and provide insertion of high throughput radio capabilities into the digital brigade and division. Supports: Battlefield digitization.



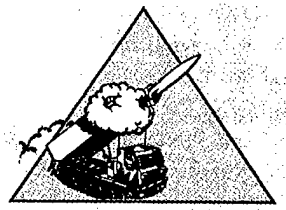
COMBINED ARMS COMMAND AND CONTROL (CAC2) ATD (93 – 96):

The CAC2 ATD will develop and demonstrate C2 functionality and shared situational awareness for brigade and below to include Armor, Aviation, Mounted Infantry, and Fire Support. This is the key ATD addressing command and control technology for battlefield digitization. The approach will be to use a series of simulations to establish operational concepts. Initially, it will focus on the capability of Bradley Fighting Vehicles, tanks, and attack rotorcraft to share a common battlefield picture. Subsequent simulations will link the fire support target reporting and handover. This will be followed by hot bench testing of the concepts. The ATD will conclude with a field demonstration in FY96 and a combined demonstration with the Battlefield Combat Identification (BCID) ATD. Technology challenges include advanced protocols, voice/data compression, simulation, advanced distributed data base technologies, and simulations. Supports: Battlefield digitization.

BATTLEFIELD VISUALIZATION ATD: The Battlefield Visualization Technology program will allow future military systems to replace static 2D topographic maps with dynamic 3D computer generated scenes of terrain and local environment that will quickly provide realistic views of the battlefield. These scenes will allow soldiers to "see" the hills, trees, roads, waterways, obscurants and targets, and visualize complex battlefield situations. This program successfully demonstrated initial, physics-based dynamic terrain capabilities, image perspective transformations and rapid 3D visualization of digital elevation models. These capabilities allow standard Defense Mapping Agency (DMA) terrain products to be inserted rapidly into the visualization environment. System improvements include: increased speed of generating 3D static/dynamic images, increased realism using improved texturing methodologies, 3D model and heterogeneous platform capabilities. All testing and evaluation is performed using a Distributed Interactive Simulation (DIS) compliant software acceptance site with access to the Defense Simulation Internet (DSI). This test site also includes a virtual reality test-bed to support dismounted infantry applications. Future activities include an ATD which will demonstrate a prototype airborne IFSAR as a data source to rapidly produce high resolution digital elevation data. This will be combined with technologies for hasty feature data collection to provide the foundation rapid mapping component required for battlefield visualization. This product will be distributed and used to generate tailored 3D presentations to permit a shared, cognitive view of the battlefield to Operational and Tactical Commanders. Supports: Combined Arms Tactical Trainer/Close Combat Tactical Trainer, Battlefield Distributed Simulation-Development (BDS-D), Synthetic Theater of War-Advanced Concepts Technology Demonstration and Joint Precision Strike Demonstration (JPSD) and Battlespace Command and Control ATD.



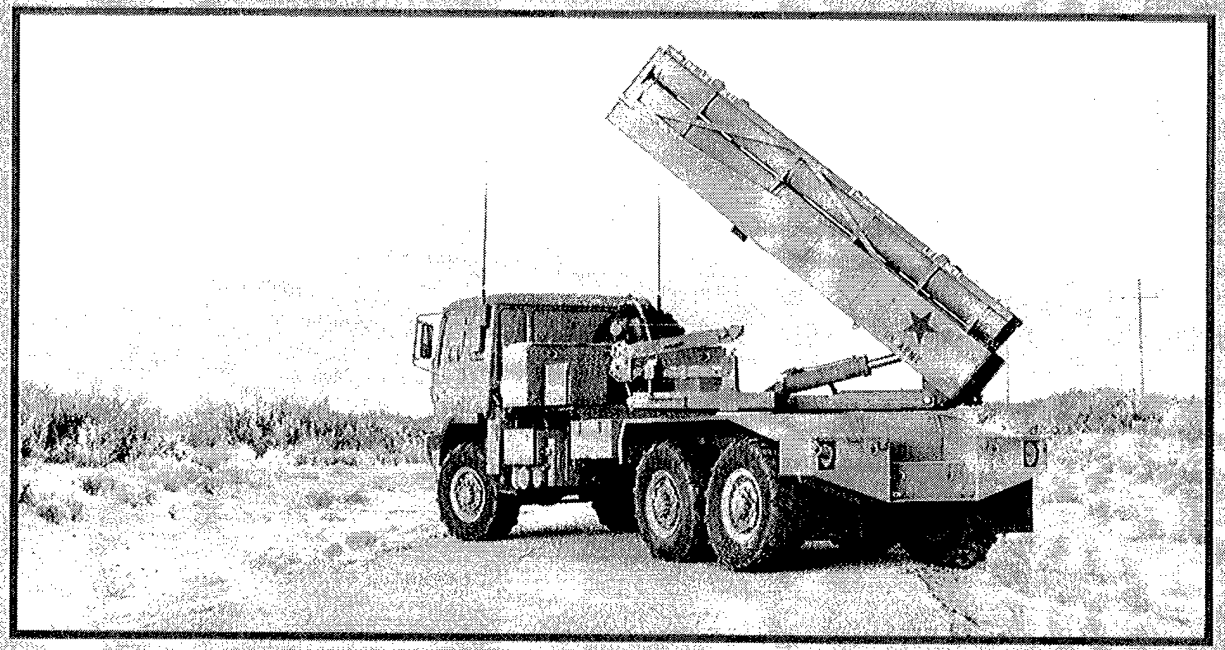
INFORMATION DISTRIBUTION TECHNOLOGY DEMONSTRATION: ARL's Information Distribution Technology research program addresses the automatic exchange of battle command information via computationally intensive model-based techniques rather than current communications-intensive message-based techniques. This approach has been applied to the problem of situational awareness by exchanging minimal route information with acceptable thresholds so that every unit can predict the location of other units even with lapses of communications. Techniques have been developed to automatically adapt information distribution requirements and priorities to dynamic bandwidth capabilities. This approach enhances the tactical planning and situational awareness ability of the warrior within the existing low bandwidth communication environment.



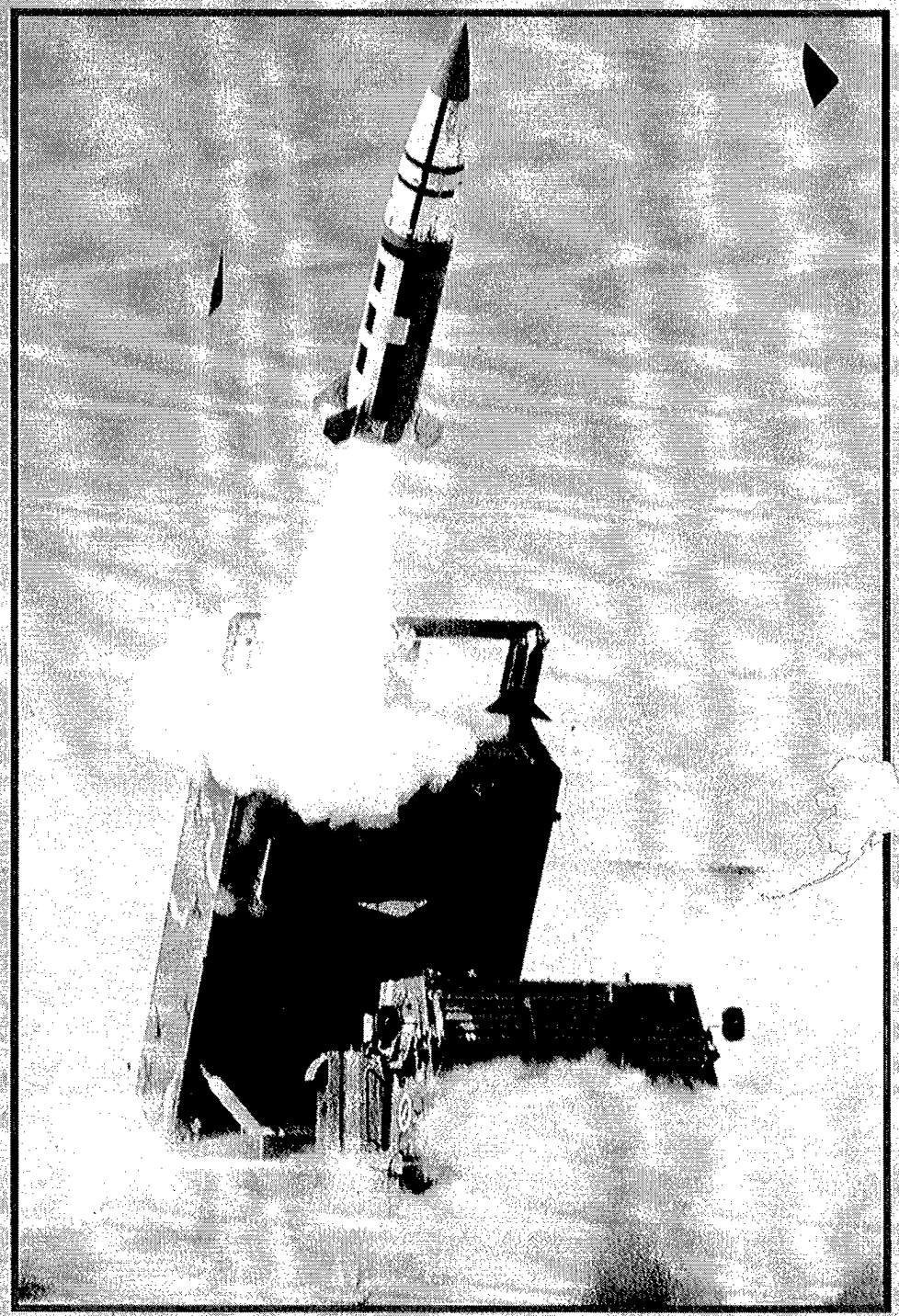
The Army must be able to shape the battlefield of the future, in order to give its numerically smaller forces the maximum possible advantage. One method for accomplishing this goal is to Conduct Precision Strike to disrupt and destroy enemy forces in rear areas before they reach the maneuver battlefield. The Army must be able to conduct deep attacks against enemy maneuver formations, logistical centers and command and control nodes. These deep attacks will allow the Army to extend the battlefield. To achieve this objective, the Army requires several types of systems that will create an all-weather, extended-range precision strike capability.

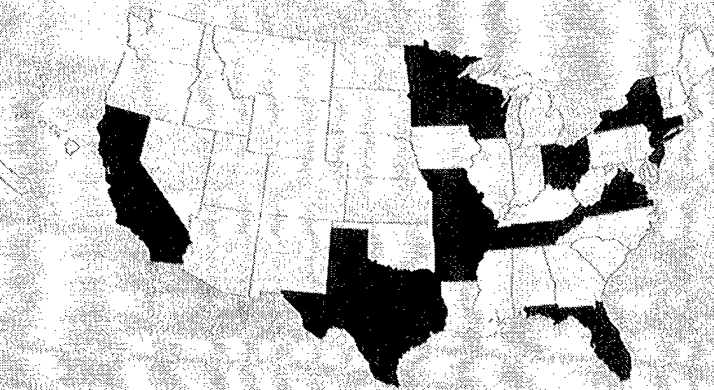
The Army's precision strike capability will be composed of three categories of systems. In the first category are systems that provide extremely accurate, near real-time intelligence to allow precision targeting of enemy forces under all conditions. Most of the systems in this category are C4I systems that primarily support efforts to Win the Information War. These systems gather and move the data that the strike systems need to execute their mission. In the second category are the platforms and extended range weapons that deliver the munitions to their deep targets. Systems like Extended Range Multiple Launch Rocket System (ER – MLRS) and the Army Tactical Missile System (ATACMS) will greatly extend the range of artillery assets in a deep strike role.

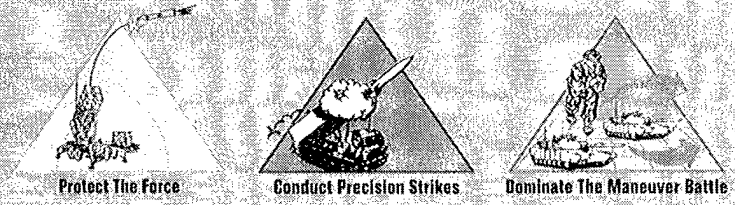
In the final category are the smart and brilliant submunitions that will sense, track and destroy enemy targets under all conditions. The Brilliant Anti-Armor Submunition (BAT) and the Sense and Destroy Armor (SADARM) projectile are two all-weather submunitions capable of detecting, tracking and destroying armored vehicles in deep areas. These submunitions can devastate enemy armored formations as they move toward the maneuver battle and cripple enemy deep strike artillery. Together the systems in these three categories create a capability to shape the maneuver battle by severely disrupting enemy operations in the rear area. Precision deep strike systems can cut off forward enemy forces from supplies, reinforcements and retreat, allowing Army ground forces to control the maneuver battlefield.



SCIENCE AND TECHNOLOGY	CONCEPT	DEM/ VAL	EMD	PRODUCTION AND DEPLOYMENT	OPERATIONS AND SUPPORT
Guided Multiple Launch Rocket System (MLRS) ATD	Tactical Endurance Synthetic Aperture Radar (TESAR)	Brilliant Anti-Armor Submunition (BAT)	Army Tactical Missile System (Army TACMS)	Multiple Launch Rocket System (MLRS)	
High Mobility Artillery Rocket system (HIMARS)		Extended Range Multiple Launch Rocket System (ER - MLRS)	Special Operations Aircraft (SOA)		
Joint Precision Strike Demonstration (JPSD) Program		Sense and Destroy Armor (SADARM)			






Protect The Force
Conduct Precision Strikes
Dominate The Maneuver Battle

MISSION: The Army TACMS Blocks I and IA provide long-range, surface-to-surface fire support.

CHARACTERISTICS: The Army TACMS Blocks I and IA are ground-launched missile systems consisting of a surface-to-surface guided missile with an anti-personnel/anti-materiel (APAM) warhead. The Army TACMS is used to attack tactical surface-to-surface missile sites, air defense systems, logistics elements, and command, control, and communications complexes. Army TACMS missiles are fired from the Multiple Launch Rocket System (MLRS) modified M270 launcher and are capable of engaging targets at ranges well beyond the capability of existing cannons and rockets.

The Army TACMS Block IA, with enhanced Global Positioning System (GPS) accuracy, will have approximately twice the range of the Army TACMS. The Army TACMS includes Guided Missile and Launching Assembly: M39: Trainer, Launch Pad Container: M68; Training Set, Guided Missile System: M165; Trainer, Test Device, Guided Missile: M78; Modified M270 Launcher; and the Army TACMS Missile Facilities.

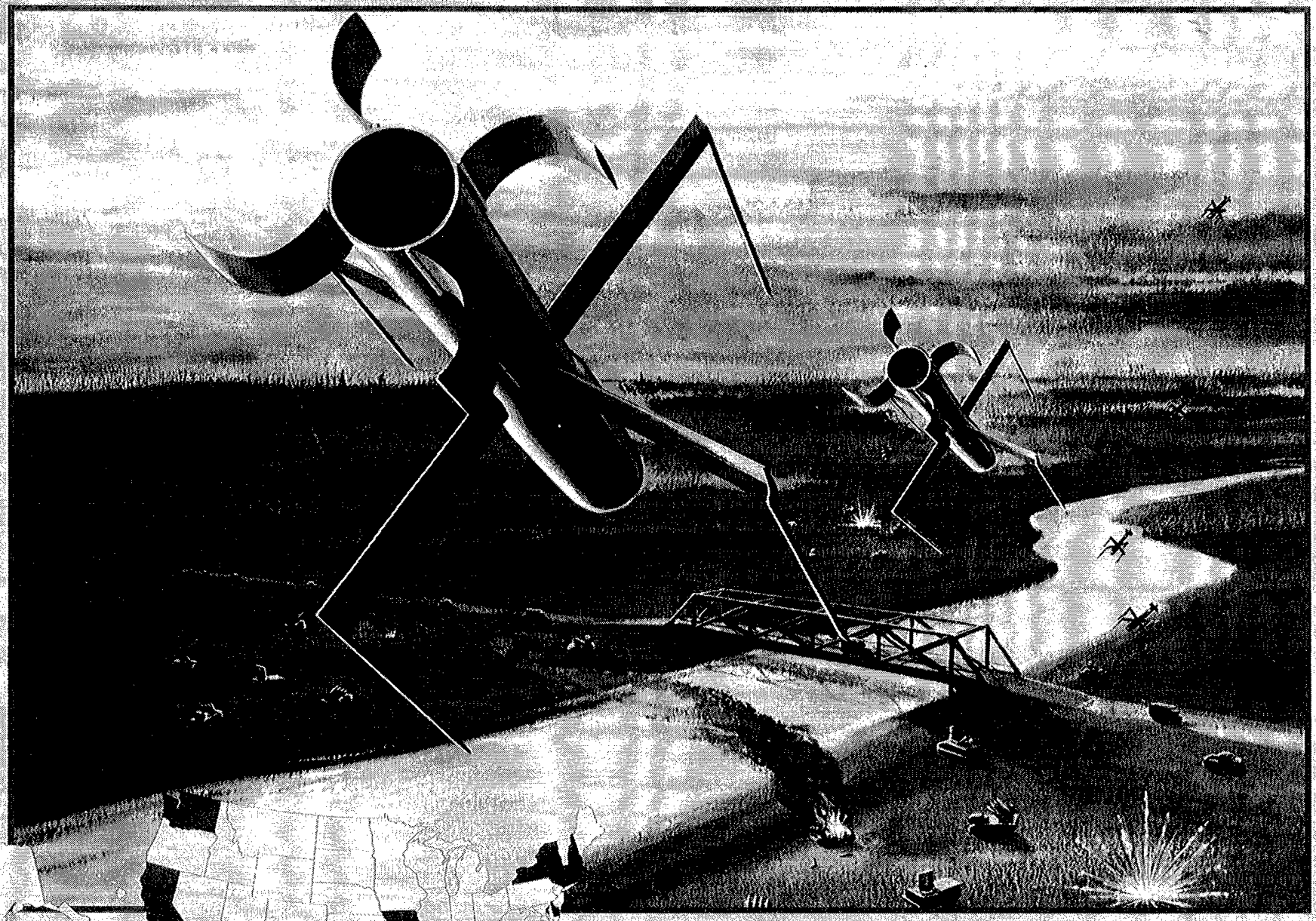
FOREIGN COUNTERPART:
Russia: SCUD variants; SS-21
Israel: Jericho

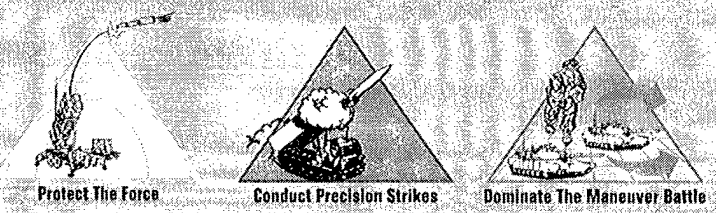
PROGRAM STATUS: In November 1994, a contract was awarded for 148 missiles, Full-Rate Production (FRP) V. Army TACMS is currently in its fifth year of FRP. The current Procurement Objective for Blocks I and IA is 2,447 missiles. Army TACMS is the first weapon system to be fielded in the modernization program for a "system of systems" deep fires suite, and it saw combat action in Southwest Asia during Desert Storm. The modifications will be cut into production beginning with Low Rate Initial Production for the Army TACMS Block IA in FY96.

PROJECTED ACTIVITIES: Block I completes FRP in FY96 while Block IA continues in EMD in FY96 and begins Low Rate Initial Production in FY96.

PRIME CONTRACTOR: Loral (Loral Vought Systems) (Dallas, TX; Horizon City, TX; Camden, AR)

* See appendix for list of subcontractors.




Protect The Force
Conduct Precision Strikes
Dominate The Maneuver Battle

MISSION: The BAT will provide an autonomous anti-armor capability for the Army TACMS missile.

CHARACTERISTICS: The BAT is a self-guided submunition that uses acoustic and infrared sensors to autonomously locate, attack, and destroy moving tanks and other armored vehicles. These sensors provide the autonomous capability that makes this submunition "brilliant." BAT submunitions can be carried deep into enemy territory by a delivery vehicle, then dispersed over a target to selectively attack and destroy it.

Length:	36 in
Diameter:	5.5 in
Weight:	44 lb
Seekers:	Acoustic and infrared
Payload:	Tandem-shaped warhead
Guidance:	Autonomous
Delivery vehicles:	Army Tactical Missile System (Army TACMS)—Block II

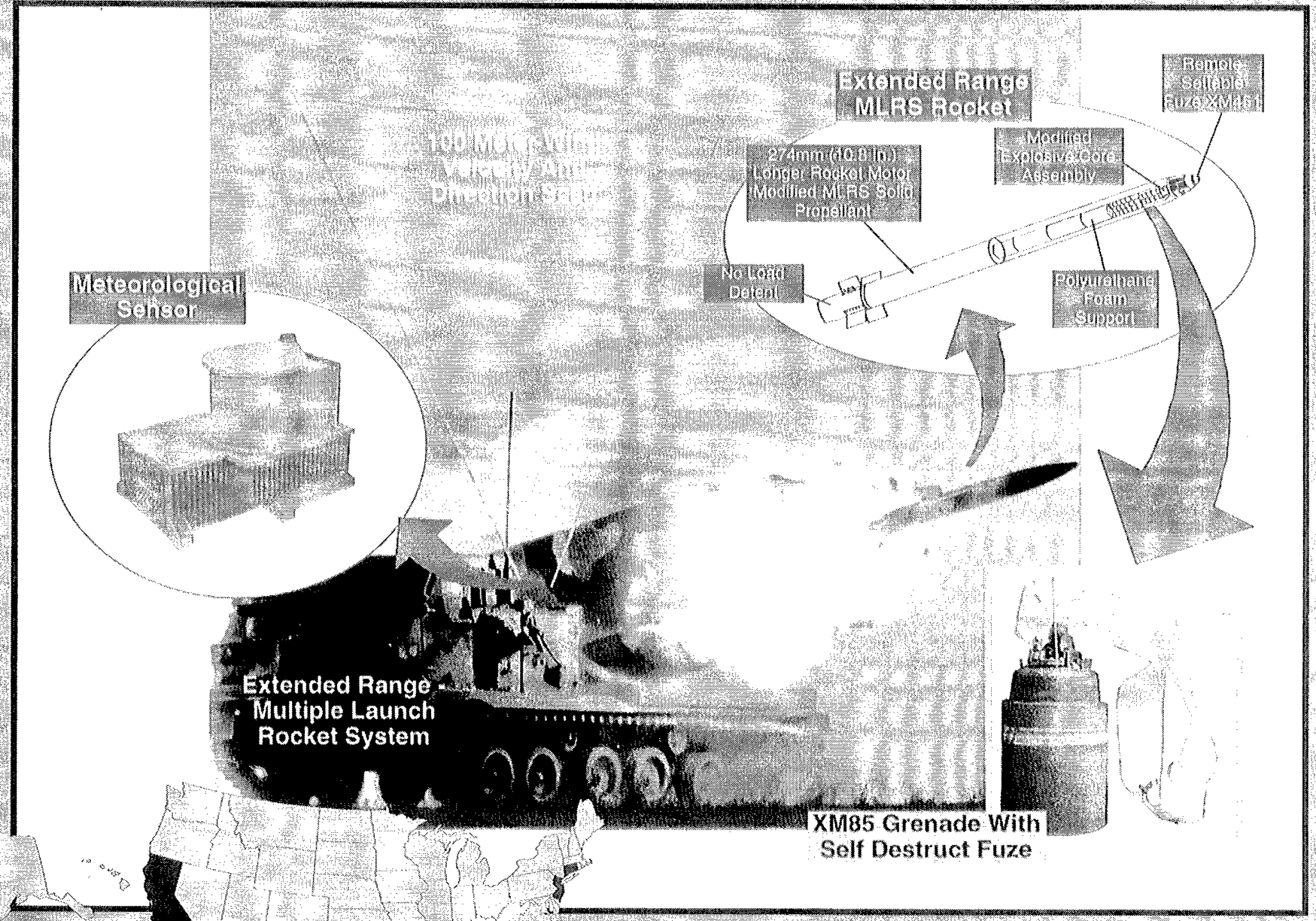
FOREIGN COUNTERPART: No known foreign counterpart.

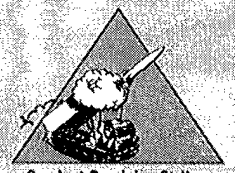
PROGRAM STATUS: BAT is in the Engineering and Manufacturing Development (EMD) phase. The BAT system was approved by the Defense Acquisition Executive for entry into EMD on 5 June 1991. The program was initiated in 1985 and has matured under extensive development and testing. (These efforts have successfully demonstrated the system's capability to autonomously acquire, track, and impact moving armor targets with the necessary accuracy and lethality.) As a result of the decision to terminate the Army's participation in the Tri-Service Standoff Attack Missile (TSSAM) program, the BAT program has been restructured with Army TACMS—Block II as the carrier.

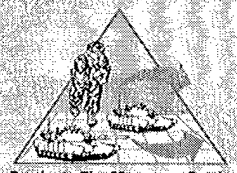
PROJECTED ACTIVITIES: Continue EMD program.
Conduct carrier integration activities and other studies.
Conduct test range and target operations, maintenance, and improvements.

PRIME CONTRACTOR: Northrop-Grumman (Hawthorne, CA; Perry, GA)

* See appendix for list of subcontractors.


Extended Range MLRS Rocket
Remote Setback Fuze XM131
Modified Explosive Core Assembly
274mm (10.8 In.) Longer Rocket Motor Modified MLRS Solid Propellant
No Load Detent
Polyurethane Foam Support
Meteorological Sensor
Extended Range - Multiple Launch Rocket System
XM85 Grenade With Self Destruct Fuze


Conduct Precision Strikes


Dominate The Maneuver Battle

MISSION: The ER-MLRS will provide longer range rockets with lower submunition dud rates for the MLRS.

CHARACTERISTICS: The ER-MLRS is a free-flight, area-fire, artillery rocket designed to complement the capabilities of the MLRS. Its mission is to engage targets beyond the range of the existing MLRS up to 50 km. The development program includes the addition of a low-level wind measuring device on the M270 launcher to sustain accuracy and effectiveness at longer ranges, and the incorporation of a self-destruct fuze on the submunitions to increase safety for friendly maneuver forces.

Warhead: Dual-Purpose Improved Conventional Munitions (DPICM)
Propulsion: Solid

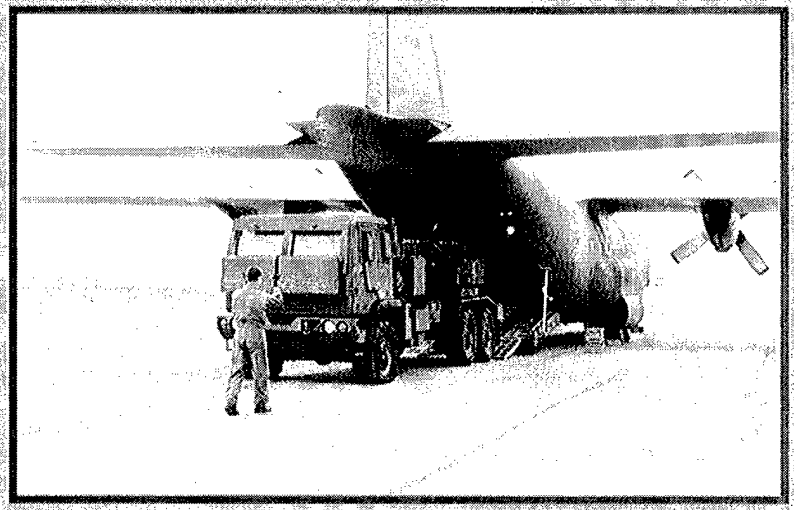
FOREIGN COUNTERPART: Several foreign multiple launch rocket systems have a range of 50 km or greater.

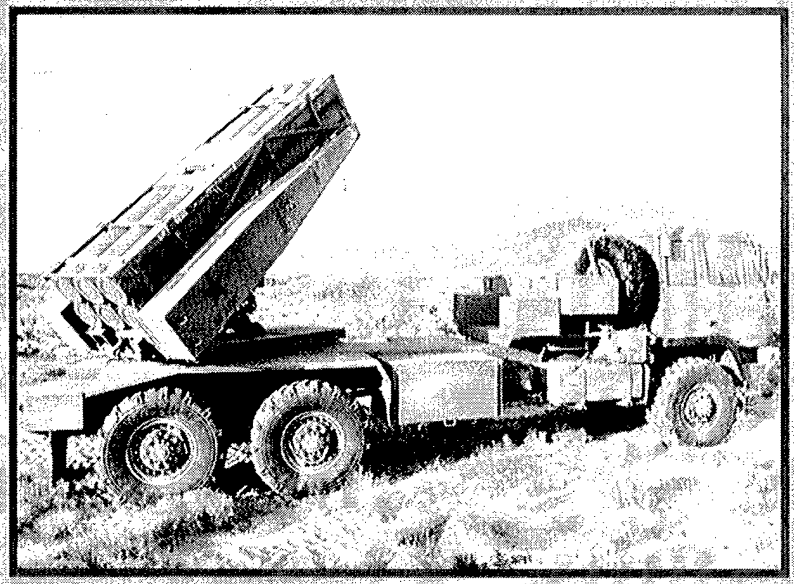
PROGRAM STATUS: The program entered the Engineering and Manufacturing Development phase in November 1992. The software and hardware Critical Design Reviews were completed in May and July 1994, respectively. The ballistic algorithm flight test program began in August 1994 and is on schedule with no technical difficulties. Testing to determine when to begin facilitation for the self-destruct fuse is scheduled for November 1995.

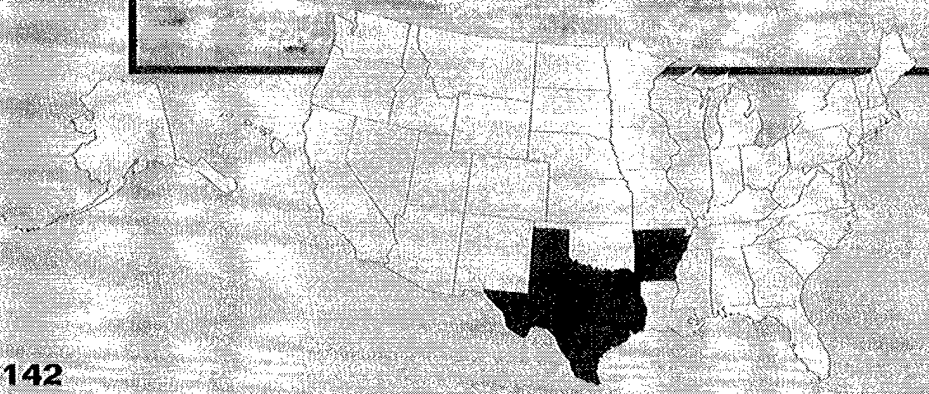
PROJECTED ACTIVITIES: Pre-Production Qualification Testing (PPQT) will be complete in 2QFY96. The Low Rate Initial Production decision review is scheduled for 3QFY96. First production rockets available in 2QFY98.

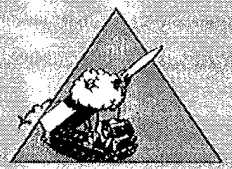
PRIME CONTRACTOR: Loral (Loral Vought Systems) (Dallas, TX; Camden, AR)

* See appendix for list of subcontractors.

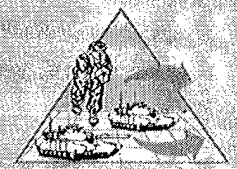








Conduct Precision Strikes



Dominate The Maneuver Battle

MISSION: HIMARS provides early entry forces MLRS firepower capability to conduct counterfire, suppression of enemy air defenses, and destruction of material and personnel targets.

CHARACTERISTICS: HIMARS is mounted on the new Family of Tactical Vehicles (FMTV) 5-ton truck and can be transported by the C-130 aircraft. The lightweight chassis allows for faster road movement, lower operating costs, and requires 30 percent fewer airlifts to transport a battery when compared to the current tracked M270 MLRS launcher. HIMARS can fire the suite of MLRS Family of Munitions (MFOM), to include all Army TACMS versions. HIMARS carries either a rocket or missile pod, has a self-loading capability and is manned by a three man crew.

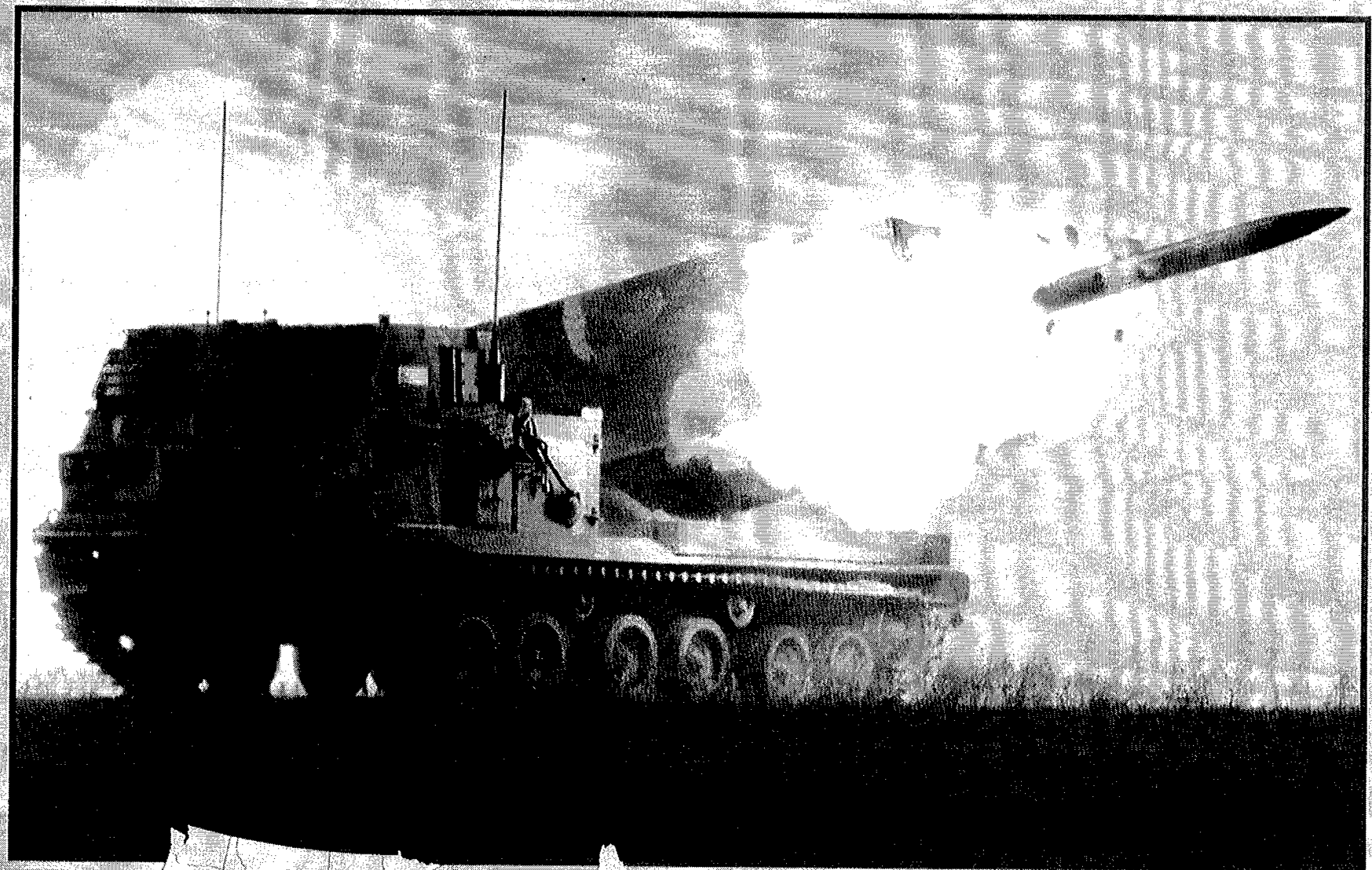
FOREIGN COUNTERPART: There are several foreign wheeled multiple rocket launch systems on the international market, however, none with the HIMARS mobility capabilities and the munitions suite capability.

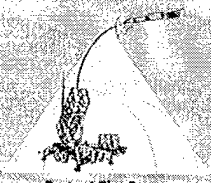
PROGRAM STATUS: Four HIMARS prototypes will be built and fired as part of the Rapid Force Projection Initiative (RFPI) Advanced Concept Technology Demonstration (ACTD) scheduled for the 2QFY98.

PROJECTED ACTIVITIES: Integration and testing of fire control components, launcher components, and man-rating the FMTV 5 ton truck cab are events scheduled for FY96 and FY97. Delivery of three HIMARS to the RFPI unit for training is scheduled for 3QFY97. After the exercise, the three HIMARS will be left with the unit for a two year user evaluation.

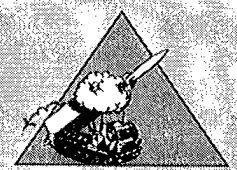
PRIME CONTRACTOR: Loral (Loral Vought Systems) (Dallas, TX)

* See appendix for list of subcontractors.

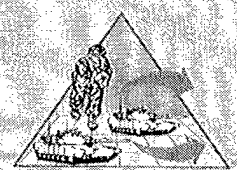




Protect The Force



Conduct Precision Strikes



Dominate The Maneuver Battle

MISSION: The MLRS provides counterbattery fire and suppression of enemy air defenses, light materiel, and personnel targets.

CHARACTERISTICS: The MLRS is an artillery weapon system that supplements cannon artillery fires by delivering large volumes of firepower in a short time against critical, time-sensitive targets. The basic warhead carries improved conventional submunitions, however, the MLRS is capable of supporting and delivering all of the MLRS Family of Munitions (MFOM) including the Army Tactical Missile System (Army TACMS) weapons. Growth programs are under way to extend the range of the rocket system and to upgrade the fire control and launcher mechanical systems.

Length:	6,832 mm	Width:	2,972 mm
Weight:	24,756 kg	Range:	483 km
Average speed:	40 kph	Max speed:	56 kph
Crew:	3		

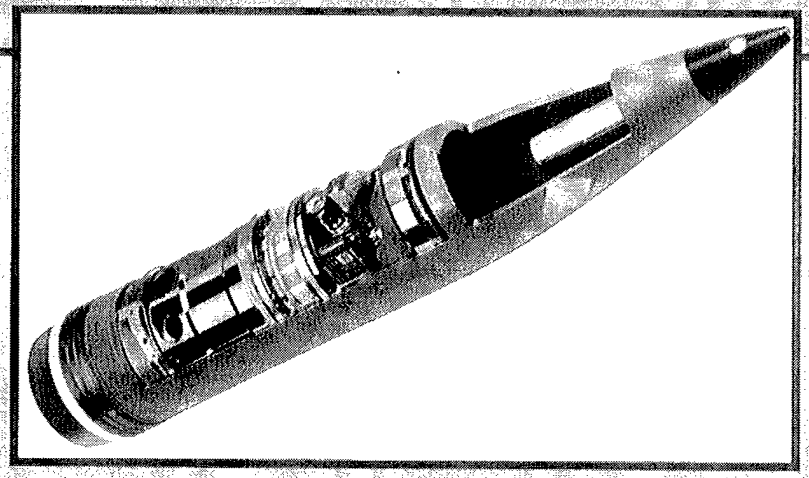
FOREIGN COUNTERPART: Similar multiple launch rocket systems exist that have a broad range of capabilities.

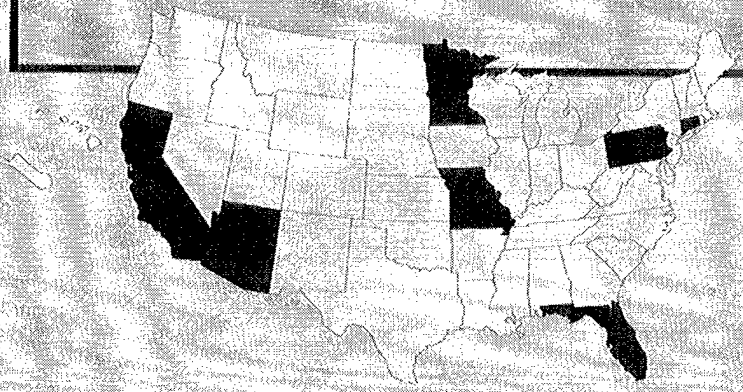
PROGRAM STATUS: The second multiyear procurement contract for FY89–93 was awarded in July 1989 for MLRS. The U.S. initial operational capability for MLRS was achieved in 1983. Starting in FY89, MLRS has been coproduced by the United States, United Kingdom, Germany, France, and Italy. As of September 1995, a total of 857 launchers have been delivered, 772 to the active Army and 185 to the National Guard. Current plans for improvement to the system include the Improved Fire Control System (IFCS), the Improved Mechanical Launch System (ILMS), and the extended range rocket (ER-MLRS). The IFCS will mitigate electronic obsolescence currently existing in the fire control system and will accommodate the needs of the MFOM weapon systems under development and provide growth for future weapon systems. The ILMS will provide rapid responses to time critical targets by reducing time to aim by 70% and by reducing reload times by 50%. The ER-MLRS will extend the current range of the basic rocket from 31.8 km to a new range of approximately 45+ km. The IFCS, the ILMS, and the ER-MLRS are in the Engineering and Manufacturing Development Phase.

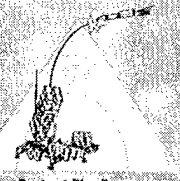
PROJECTED ACTIVITIES:
IFCS Low Rate Initial Production (LRIP) Decision 1QFY98
Combined IFCS/ILMS operational test 2QFY99
First unit equipped M270A1 3QFY00
First Extended Range Rocket MLRS rocket delivery 2QFY98.

PRIME CONTRACTOR: Loral (Loral Vought Systems) (Dallas, TX; Camden, AR)

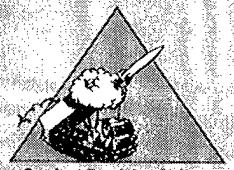
* See appendix for list of subcontractors.



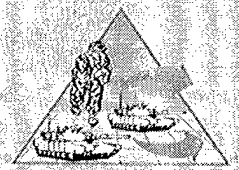




Protect The Force



Conduct Precision Strikes



Dominate The Maneuver Battle

MISSION: SADARM will provide an autonomous, counterbattery capability to indirect fire units.

CHARACTERISTICS: SADARM is a fire-and-forget, multi-sensor, smart munition designed to detect and destroy counter-measured armored vehicles, primarily self-propelled artillery. It is effective in all weather and terrain. SADARM is delivered to the target area by 155 mm artillery projectiles. Each projectile carries two SADARM highly sophisticated submunitions. Once dispensed from its carrier, the intelligent submunition detects appropriate targets using dual-mode millimeter wave and infrared sensors. Because of the multimode sensor, the submunition is equally effective against desert background and cold winter snow. It fires a highly lethal explosively formed penetrator through the top of the target. SADARM is a gun-hardened submunition with the capability to be dispensed from a variety of carriers.

	155 mm	
Caliber:	5.8 in	
Weight:	26.2 lb	
Range:	22.5 km	(From M109A6 howitzer)
Number of submunitions:	2/rd	

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: SADARM entered the Engineering and Manufacturing Development phase in March 1988 and entered low-rate production in August 1995.

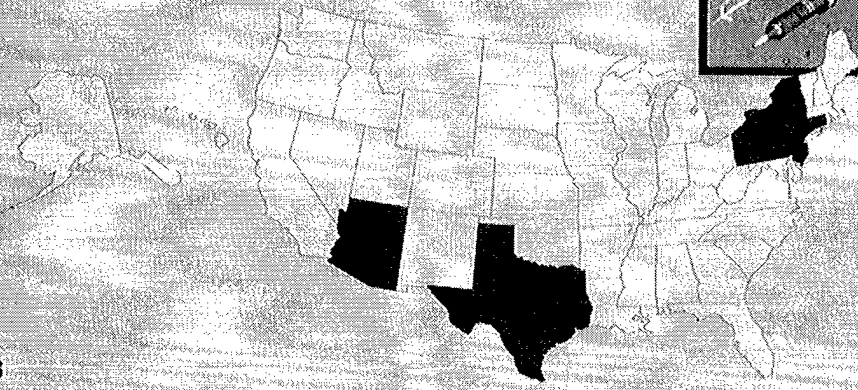
PROJECTED ACTIVITIES: Full rate production will begin in 1999.

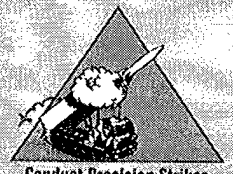
PRIME CONTRACTOR: GENCORP Inc. (Aerojet) (Azusa,CA)

* See appendix for list of subcontractors.

MH-47E

MH-60K





Conduct Precision Strikes

MISSION: The SOA provide a means for the rapid movement of special operations forces and equipment for a multitude of Special Operations Forces (SOF) missions.

CHARACTERISTICS: The SOA are modified Black Hawk (UH-60L) and medium-lift Chinook (CH-47D) helicopters that will provide the U.S. Special Operations Command with the capability for low-level, night, adverse weather, extended range, and precision navigation through unfamiliar mountainous terrain. Both the utility and medium-lift version (designated MH-60K and MH-47E, respectively) will be provisioned with extended range fuel systems, including an aerial refueling capability, upgraded engines, and worldwide communications equipment. Additional improvements include a totally integrated cockpit, improved terrain following/terrain avoidance radar, and forward-looking infrared imaging capability. SOA missions cover rapid deployment, strategic intelligence strikes, and other operational missions supported by the SOF.

	MH-60K	MH-47E
Mission weight:	24,500 lb	54,000 lb
Cruise speed:	145 kt	147 kt
Endurance*:	7.6 hr	9.8 hr
Max self-deployment range*:	755 nm	1,260 nm
Crew:	4	5
Payload:	12 troops	44 troops
Armament:	2–7.62 mm (M134) machine guns	2–7.62 mm (M134) machine guns

*Unrefueled with 30-minute reserve; however, also has air-to-air refuel capability

FOREIGN COUNTERPART: At this time, there are no foreign helicopters equivalent to the MH-60K or MH-47E or performing similar missions. A number of foreign helicopters could be modified for SOA-type missions. Listed are foreign helicopters capable of performing reconnaissance, early warning, and search and rescue missions.

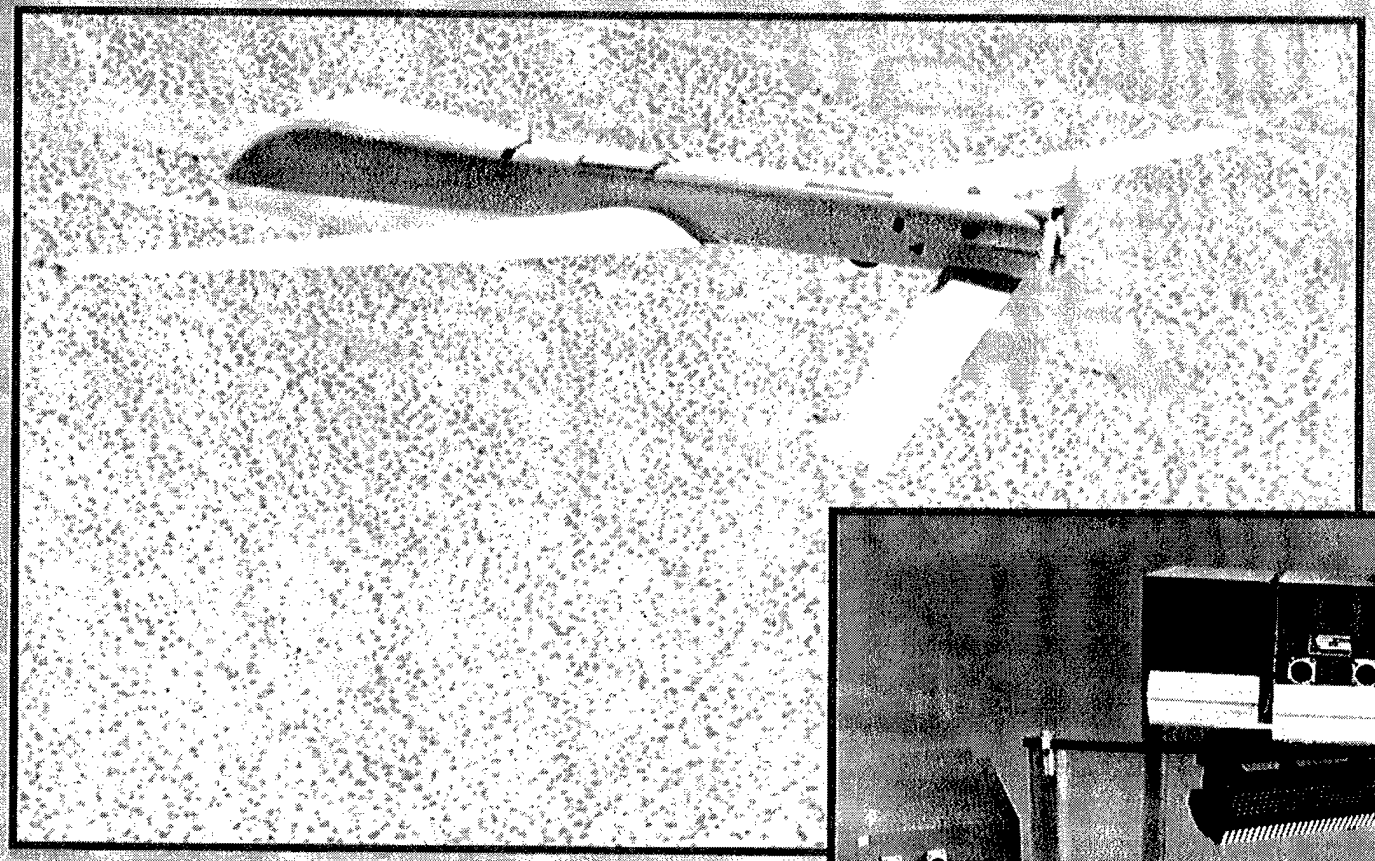
Russia		United Kingdom	Others	
MI-8 (HIP)	KA-27PS	MK2 (Commando)	SA342 (France)	MI-2 (Poland)
MI-26 (HALO)	MI-17	LYNX	SA330 (France)	W-3 (Poland)
MI-14PS	MI-38	EH-101	A-109 (Italy)	NH-90 (four countries)

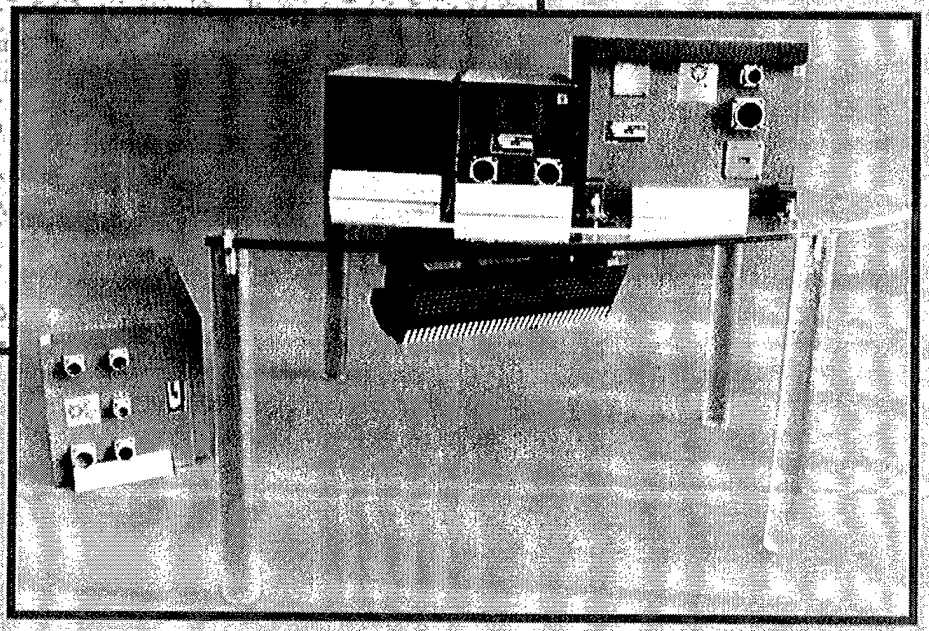
PROGRAM STATUS: The MH-60K and MH-47E have completed initial production, verification testing, and training. Conditional Material Release of these aircraft was signed 3QFY95. The SOA program provided 23 MH-60K and 26 MH-47E aircraft.

PROJECTED ACTIVITIES: Full Materiel Release of these aircraft is scheduled during 2QFY98.

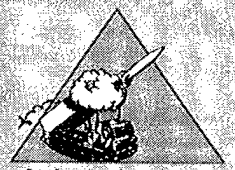
PRIME CONTRACTOR: Boeing (Boeing Helicopter) (Philadelphia, PA)—MH-47E
United Technologies Corp. (Sikorsky Aircraft) (Stratford, CT) —MH-60K

* See appendix for list of subcontractors.





Win Information War



Conduct Precision Strikes

MISSION: The Synthetic Aperture Radar (SAR) provides the Medium Altitude Endurance Unmanned Aerial Vehicle (MAE UAV) with continuous all weather coverage of worldwide targets for long endurance missions at significant operational ranges. High quality, one foot resolution imagery is downlinked, analyzed and distributed to the appropriate user.

The Synthetic Aperture Radar Target Recognition and Location System (STARLOS) provides for the integration of sensor, signal processing and operational concepts. Utilizing new and emerging systems, it demonstrates reduced sensor to shooter timelines and enhanced Identification against mobile, time-critical ground targets at deep and extended ranges.

CHARACTERISTICS: The SAR is a key development by the Army for the OSD sponsored MAE UAV Advance Concepts Technology Development (ACTD) program. Key objectives of this ACTD are to quickly satisfy the military need of long dwell coverage and reconnaissance of small, mobile or fixed targets; and to develop concepts of operation for endurance UAVs. The SAR sensor is a lightweight (175 lb), high-resolution (1-ft) payload that performs image formation processing in the air; and downlinks contiguous, high quality strip map imagery that is nominally 1 km wide. All the collected data are stored in the ground station, and selected images are disseminated via satellite link to various intelligence nodes. The SAR design will accommodate an additional Moving Target Indicator (MTI) mode which will be implemented and demonstrated. In addition, the SAR output will be interfaced to STARLOS equipment to demonstrate the significant value-added identification capability of Automatic Target Cueing/Recognition of high priority ground targets at deep and extended ranges.

STARLOS is meant to operate on an Army designated aerial platform. Targets are identified and located by means of a high resolution Synthetic Aperture Radar (SAR) sensor coupled with very high speed signal processors to perform rapid Automatic Target Recognition (ATR) or Automatic Target Cueing (ATC). The program has become a major component of the Joint Precision Strike Program, and was the impetus for the development by industry of a high resolution SAR payload for the JCS Medium Altitude Endurance class of Unmanned Aerial Vehicles. The system is designed to support operational commanders in world-wide contingency operations, and supports the direct, real-time sensor-to-shooter architecture, DoD deep precision strike, and battlefield visualization concepts.

Synthetic Aperture Radar Target Recognition and Location System (STARLOS) is an advanced technology demonstration of the feasibility of locating and identifying high value targets from an aerial platform such as an unmanned aerial vehicle.

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: Key element of MAE UAV ACTD; currently undergoing platform integration in preparation for worldwide deployment. STARLOS—Adjunct to Joint Precision Strike Demonstration (JPSD) and MAE UAV ACTD as a Technical Development.

PROJECTED ACTIVITIES: TESAR—Integration testing followed by OCONUS deployment.
STARLOS—Transition Processor to Industry; Participate in FY96 and FY97 JPSD and Advanced Warfighting Experiments.

PRIME CONTRACTOR: Westinghouse (Baltimore, MD and Albuquerque, NM)

* See appendix for list of subcontractors.

JOINT PRECISION STRIKE DEMONSTRATION (JPSD) PROGRAM (95-01):

The Joint Precision Strike Demonstration (JPSD) Program is developing and demonstrating an all-weather, day/night, end-to-end, sensor-to-shooter precision strike capability to defeat critical targets at extended ranges. The program's early focus has been centered on Army programs, but it will expand into a Joint environment. Although the program originally derived from the difficulties in locating and destroying SCUDS during DESERT STORM, JPSD is presently exploring and demonstrating ways to counter any high value, line critical target, especially those at extended ranges.

To optimize the Land Component Commander's precision strike capabilities, the program has four strategic objectives. The first is to identify and establish a timeline for the Army's current precision strike baseline. The second is to reduce precision strike timelines from the current capability, measured in hours, to a future capability, measured in minutes. The third is to achieve a measurable improvement in target location and identification, weapons effectiveness and damage assessment. The final objective is to advance precision strike concepts of employment including real-time sensor to weapon cueing, near-real-time data dissemination of seamless sensor-to shooter node communications, and dynamic retargeting.

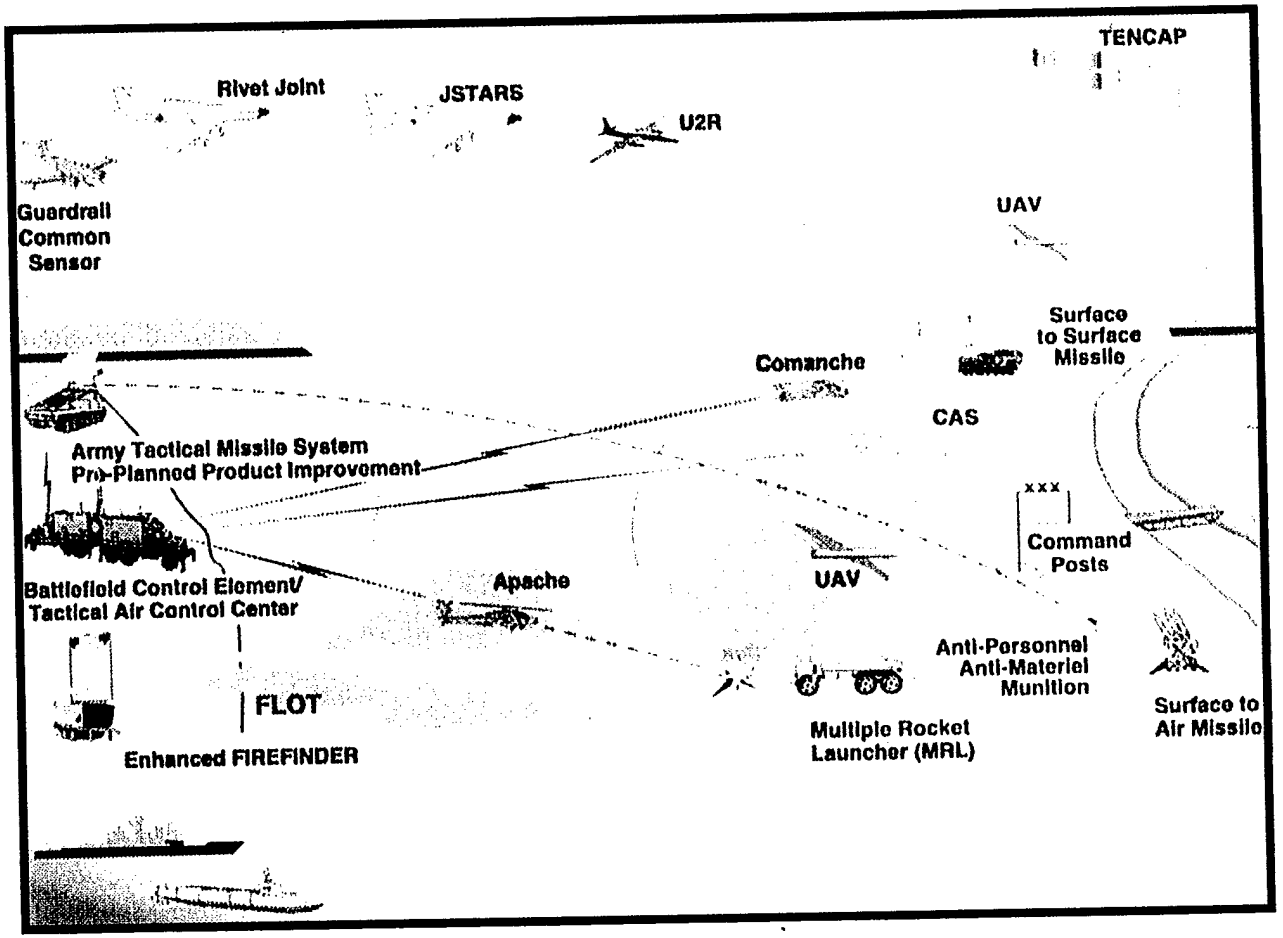
The JPSD program is conducting a series of building block demonstrations, that began in late FY92, designed to integrate and evaluate advanced precision strike technologies, current and emerging systems, concepts and architectures in a realistic and doctrinally correct operational environment. To support the execution of these demonstrations and to provide a mechanism to collect, organize, analyze and display data, an Integration and Evaluation Center (IBC) has been constructed at the US Army Topographic Engineering Center (TEC), Alexandria, VA. The IBC achieved initial operational capability in late FY94 and has an extensive set of connectivities, both classified and unclassified, to allow the integration of live inputs, simulations, prerecorded data and scripted events. The IBC has already proven itself to be an extremely useful capability to a variety of-users (system developers, trainers and warfighters).

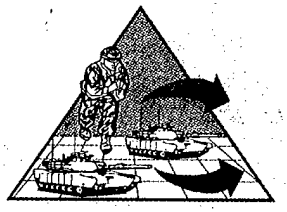
In April, 1994, the Deputy Under Secretary of Defense for Advanced Technology approved the JPSD proposal to conduct a Precision/Rapid Counter-Multiple Rocket Launcher (MRL) program as an Advanced Concept Technology Demonstration (ACTD) for FY95 through FY98. This ACTD, which will conduct a CONUS demo at Fort Hood, TX in September 1995 and an OCONUS demo in Korea 4th Quarter FY96, will demonstrate a significantly enhanced capability for US Forces Korea (USFK) to neutralize and destroy the forward deployed North Korean 240 mm MRLs. This ACTD has the full support of the Commander-in-Chief (CINC) USFK, Army Acquisition Executive and OSD as well as Headquarters Department of the Army—Office of the Deputy Chief of Staff for Operations and Plans (HQDA-ODCSOPS), and Training and Doctrine Command (TRADOC).

As a follow-on to the Korea ACTD, JPSD in support of Force XXI and Army Digitization efforts, is planning to conduct the Survivable Armed Reconnaissance on the Digital Battlefield Program which is a candidate ACTD for an FY97 start. This ACTD will illustrate an enhanced warfighting capability through improved integration of, and enhanced interoperability between, surveillance and reconnaissance assets organic to the maneuver commander with other tactical, theater, and national assets. Planned demonstrations will use a mix of constructive, virtual and live simulation and will employ an integrated network of sensor assets to improve the gathering and dissemination of battlefield intelligence using the Army's Integrated Battlefield Architecture. The Demonstration will be played in four vignettes based on an early entry scenario. All aspects of armed reconnaissance will be exercised; from detection, identification, location and reporting; through target engagement to battle damage and weapons effectiveness assessments.

GUIDED MULTIPLE LAUNCH ROCKET SYSTEM (MLRS) ATD (94-98).

This project, entitled Multi-Platform Launcher (MPL) in the FY96 President's budget, has been recently renamed Guided MLRS. The Guided MLRS ATD will design, develop, and flight test a low cost guidance and control system for the extended range MLRS free-flight rocket, thereby substantially improving its delivery accuracy, reducing the number of rockets required to defeat the target, reducing the logistics burden and expanding the set of MLRS targets to include precision targets. The guidance system will make use of inertial and GPS low cost component technologies and will have application for bomblet, precision guided submunition, mine, and unitary/earth penetrator warheads. The Guided MLRS ATD is integrated with the Rapid Force Projection Initiative (RFPI) ACTD and the Joint Precision Strike Demonstration (JPSD) Precision/Rapid Counter Multiple Rocket Launcher (MRL) ACTD, as well as the Mobile Strike Force AWE.



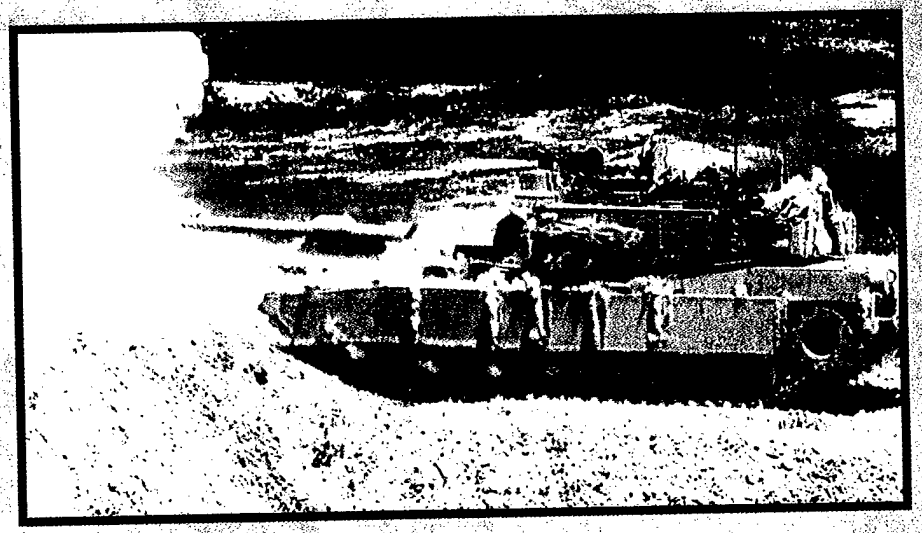


Tomorrow's Army will be a smaller force, but with just as many, if not more, crises to respond to on behalf of the nation. As a result, Army forces will need improved firepower, improved mobility and greater situational awareness if they are to maintain their effectiveness. The Army of the future must be able to dominate the maneuver battlefield, despite and because of its smaller size. The smaller size means the Army of the future will have less margin for error and so must maximize the combat power of each soldier. The Army must pursue weapon systems with greater ranges, greater accuracy and greater firepower. The Army must also acquire systems that will extend the all-weather/night fighting capabilities of its forces.

Army modernization efforts to Dominate the Maneuver Battle fall into two categories: upgrades and new systems. The first category covers Army programs to greatly enhance the capabilities of its existing systems. The upgrades to the Abrams tank and the Bradley Fighting Vehicle System (BFVS) will improve the communications and data processing systems, the night-fighting capabilities and the survivability of the vehicles. The Driver's Vision Enhancer (DVE) and the 2nd Generation Forward Looking Infrared (2nd Gen FLIR) are two examples of these upgrades. The Apache Longbow program will vastly improve the ability the Apache attack helicopter to track and engage a large number of air and ground targets. The Apache will also add the 2nd Gen FLIR, using the same sensor unit as the Bradley and Abrams. Digitization upgrades to all platforms will allow them to operate more efficiently as part of an integrated whole.

The Army is also acquiring several new systems that will greatly improve the ability of its forces to prosecute a ground war. The Crusader is a revolutionary artillery system, using a Regenerative Liquid Propellant Gun and an automated loading system. Crusader also requires 3 fewer crewmen than previous self-propelled artillery systems. The new Command and Control Vehicle (C2V) will allow C2 "on the move" from an armored vehicle that can keep pace with Bradley and Abrams. To improve its mobility, the Army is also enhancing its combat engineering capabilities with the acquisition of the Grizzly breaching vehicle and the Wolverine heavy assault bridge vehicle.

This combination of improved firepower, improved mobility and improved situational awareness will make tomorrow's Army maneuver forces a very powerful tool. By maintaining a tremendous technological advantage over potential adversaries, the Army will retain its ability to Dominate the Maneuver Battle and will continue to be a strong deterrent to would be aggressors.



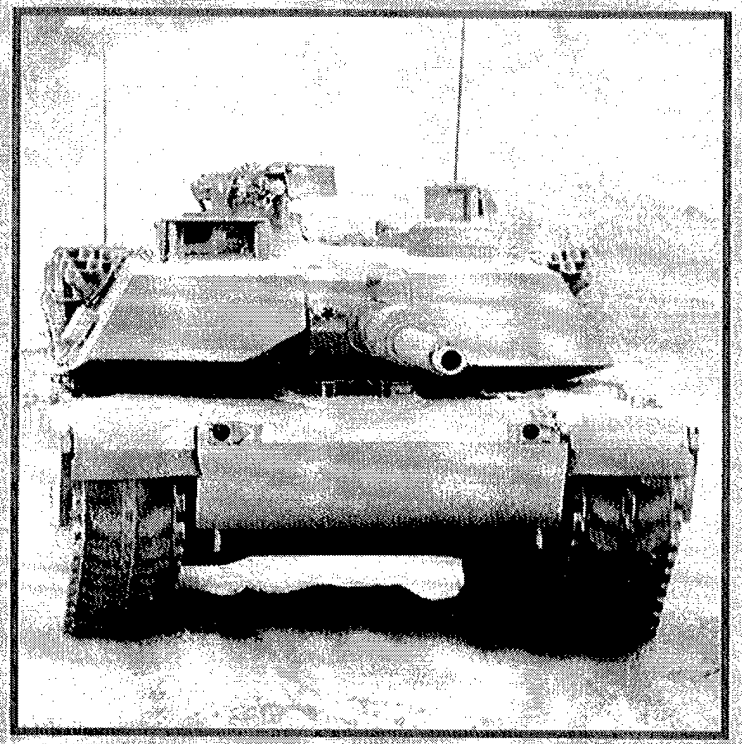
- Composite Armored Vehicle (CAV) ATD
- Crewman's Associate ATD
- Enhanced Fiber Optic Guided Missile (EFOGM) ATD
- Hit Avoidance ATD
- Hunter Sensor Suite ATD
- Intelligent Minefield (IMF) ATD
- Line of Sight Antitank (LOSAT)
- National Rotorcraft Technology Center (NRTC)
- Precision Guided Mortar Munition (PGMM) ATD
- Target Acquisition ATD
- Rapid Force Projection Initiative (RFPI) ACTD
- Remote Sentry ATD
- Rotorcraft Pilot's Associate (RPA) ATD Program

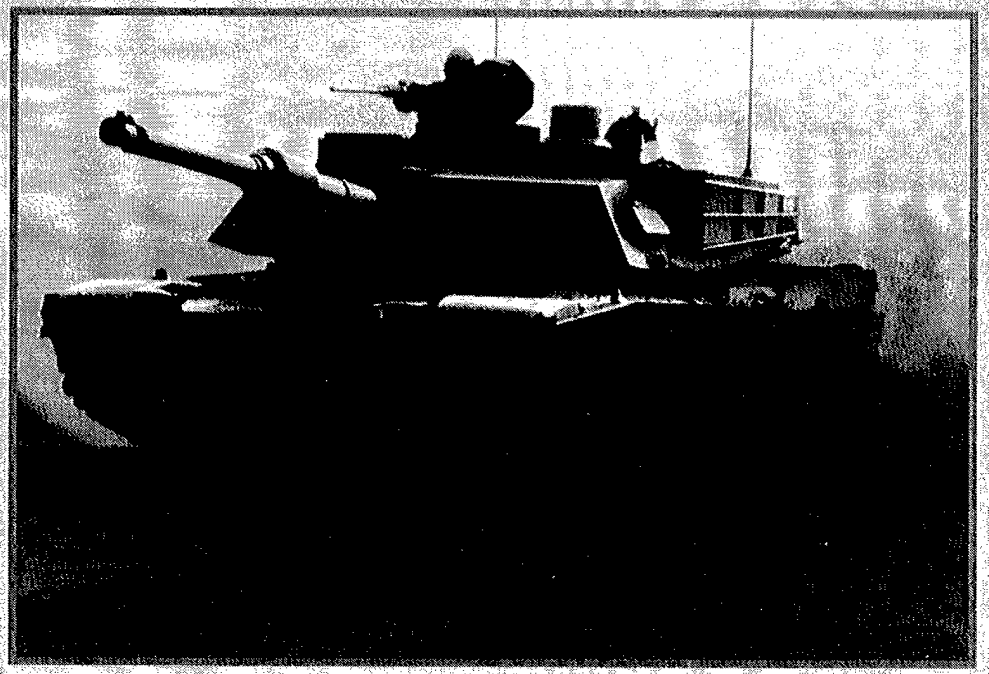
- Airborne Standoff Minefield Detection System (ASTAMIDS)
- Crusader
- Grizzly

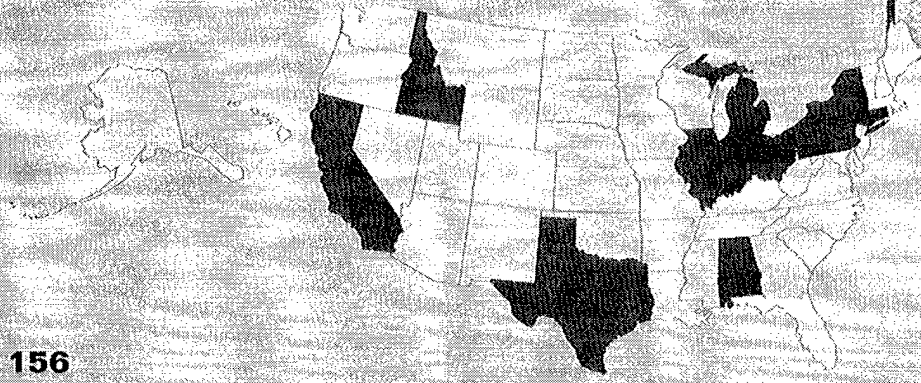
- Apache Longbow
- Armored Gun System (AGS)
- Close Combat Tactical Trainer (CCTT)
- Command and Control Vehicle (C2V)
- Hornet
- Multi-Purpose Individual Munition/Short Range Assault Weapon (MPIM/SRAW)
- Second Generation FLIR
- TOW Improved Target Acquisition System (ITAS)
- Wolverine

- Driver's Vision Enhancer (DVE)
- Hercules
- HYDRA 70 Rocket System
- Javelin
- Laser HELLFIRE
- Longbow HELLFIRE
- Night Vision/Reconnaissance, Surveillance and Target Acquistion (NV/RSTA)
- Small Arms
- Tank Main Gun Ammunition
- Thermal Weapon Sight (TWS)
- TOW Missile
- Volcano

- Abrams
- Bradley Fighting Vehicle Syetem (BFVS)
- Howitzer (M119A1)
- Kiowa Warrior
- M113 Family of Vehicles (FOV)
- Mortar (120 mm)
- Paladin







Dominate The Maneuver Battle

MISSION: The Abrams tank provides heavy armor superiority on the battlefield.

CHARACTERISTICS: The Abrams tank closes with and destroys enemy forces on the integrated battlefield using mobility, firepower, and shock effect. The 105 mm main gun on the M1 and IPM1 and the 120 mm main gun on the M1A1 and M1A2, combined with the powerful 1,500 hp turbine engine and special armor, make the Abrams tank particularly suitable for attacking or defending against large concentrations of heavy armor forces on a highly lethal battlefield. Additional features of the M1A1 are increased armor protection, suspension improvements, and an NBC protection system that provides additional survivability in a contaminated environment. The M1A2 program builds on the M1A1 to provide an Abrams tank with the necessary improvements in lethality, survivability, and fightability required to defeat advanced threats. The M1A2 includes a Commander's Independent Thermal Viewer, an Improved Commander's Weapon Station, position navigation equipment, a distributed data and power architecture, embedded diagnostic system, improved fire control system, and a radio interface unit that allows, through the SINCGARS radio, rapid transfer of digital situational data and overlays to compatible systems on the digital battlefield.

	M1/IPM1	M1A1	M1A2
Length:	32.04 ft	32.25 ft	32.25 ft
Width:	12.0 ft	12.0 ft	12.0 ft
Height:	7.79 ft	8.0 ft	8.0 ft
Top speed:	45.0 mph	41.5 mph	41.5 mph
Weight:	60 tons	67.6 tons	68.7 tons
Armament:	105 mm	120 mm	120 mm
Crew:	4	4	4

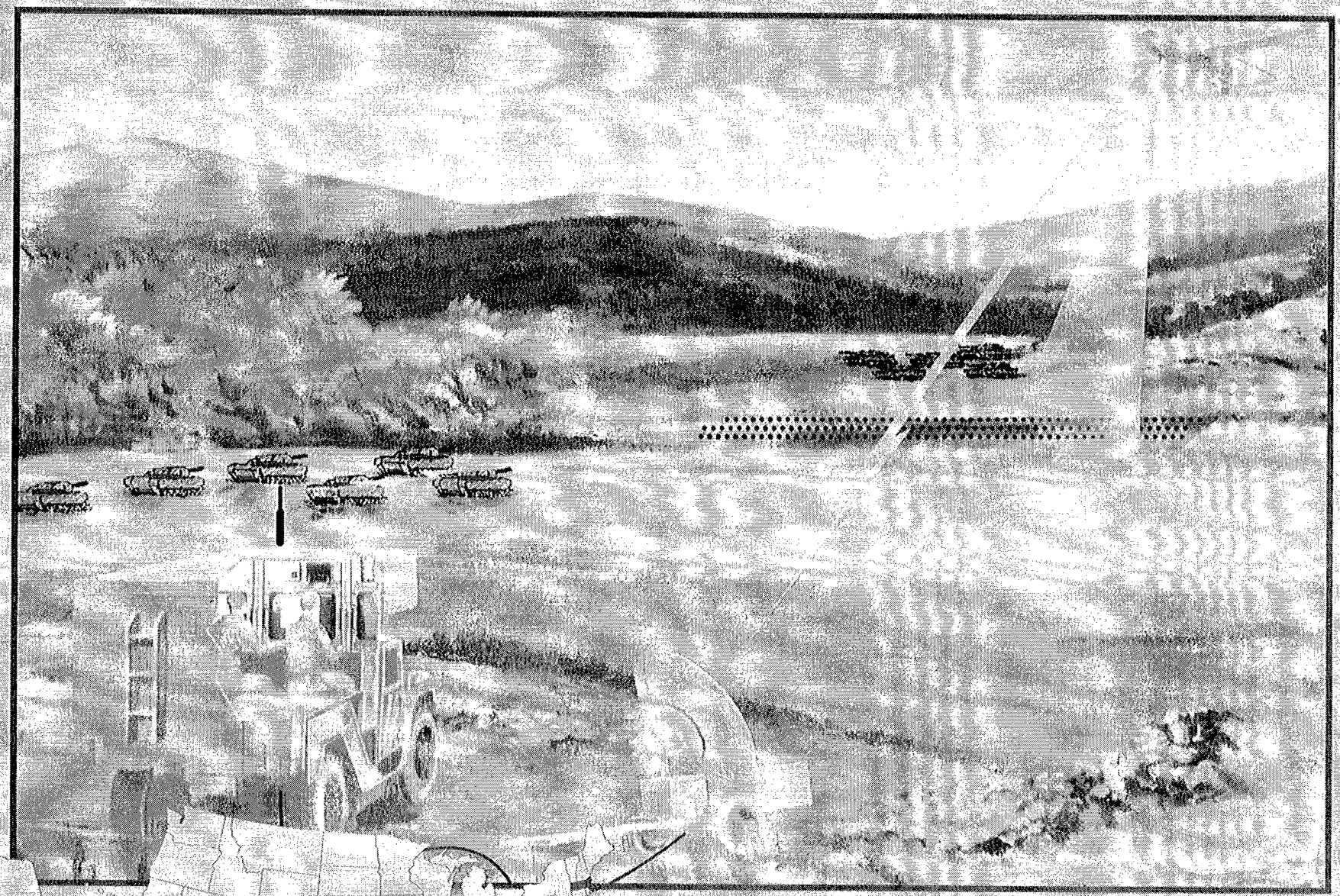
FOREIGN COUNTERPART: United Kingdom: Challenger 2; Germany: Leopard 2; France: Leclerc; Russia: T-64, T-72, and T-80; Israel: Merkava Mk. 3; Italy: C1 Ariete

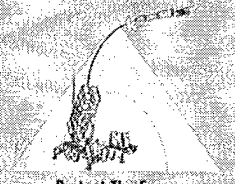
PROGRAM STATUS: Production of M1A1 tanks for the U.S. Army is complete. Production of new M1A1 and M1A2 Abrams tanks is in its final phase for Foreign Military Sales. In lieu of new production, the Army is upgrading approximately 1,000 older M1 tanks to the M1A2 configuration. The Army also initiated a modification program for the M1A2 to enhance its digital command and control capabilities and to add the second generation forward looking infrared (FLIR) sights to improve the tank's fightability and lethality during limited visibility. This system enhancement program will be fielded in the 2000 time frame concurrently with the M2A3 Bradley and other advanced digital systems.

PROJECTED ACTIVITIES: The initial M1A2 fielding to the First Cavalry Division, Ft. Hood, TX, is underway. The Army will continue to field M1A2s to the CONUS contingency corps and our other first to fight units into the next decade.

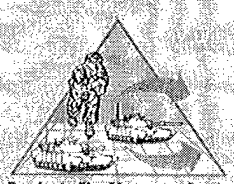
PRIME CONTRACTOR: General Dynamics (Land Systems Division) (Sterling Heights, MI; Warren, MI; Scranton, PA; Lima, OH)

* See appendix for list of subcontractors.





Protect The Force



Dominate The Maneuver Battle

Airborne Standoff Minefield Detection System (ASTAMIDS)

MISSION: ASTAMIDS provides a near real time stand-off minefield detection and survey system that can be employed in all conflict levels of air land operations.

CHARACTERISTICS: ASTAMIDS consists of an imaging sensor mounted on an Unmanned Aerial Vehicle (UAV) and a processor/algorithm integrated into the UAV Ground Control Station (GCS). The sensor will be controlled by the UAV GCS, transmitting minefield imagery to the GCS, and then processed in near real time. Minefield data will be displayed and disseminated to using units similar to other Reconnaissance, Intelligence, Surveillance, and Target Acquisition (RISTA) data.

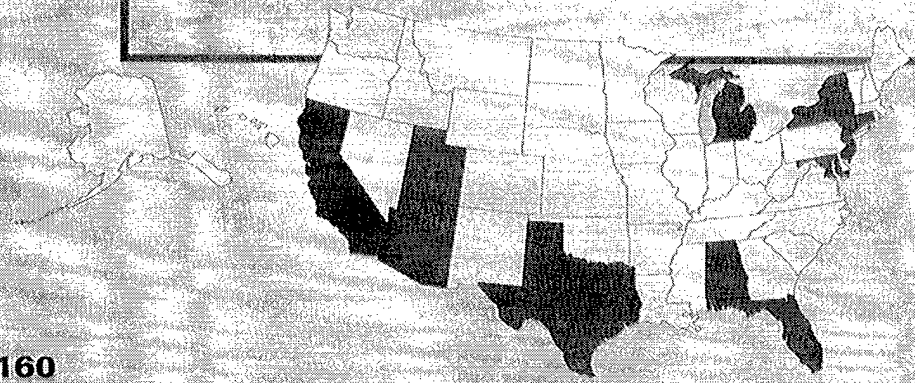
FOREIGN COUNTERPART: No known foreign counterpart.

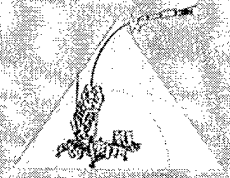
PROGRAM STATUS: The ASTAMIDS program is currently in the Demonstration and Validation (DEM/VAL) phase of development. Milestone II is scheduled for 2QFY97; Milestone III is scheduled for 4QFY99.

PROJECTED ACTIVITIES: Technical Testing and Early User Test and Experimentation will be initiated 3QFY96 and completed 1QFY97.

PRIME CONTRACTOR: Two competing systems with technical downselect at MSII:
Raytheon (Tewksbury, MA)
Westinghouse (Baltimore, MD)

* See appendix for list of subcontractors.





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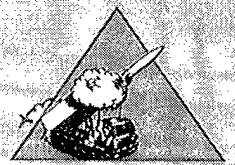
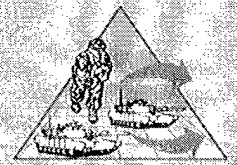
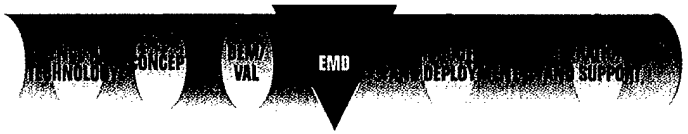


Conduct Precision Strikes



Dominate The Manpuver Battle



MISSION: The mission of the attack helicopter is to conduct rear, close, and deep operations; deep precision strike; and provide armed reconnaissance and security when required in day, night and adverse weather conditions. The Apache Longbow is designed to improve upon the AH-64A Apache by providing a fire and forget capability with the Longbow HELLFIRE and improved target acquisition in adverse weather conditions.

CHARACTERISTICS: Longbow is a development and acquisition program for a millimeter wave radar air/ground targeting system capable of being used day, night, in adverse weather, and through battlefield obscurants. Longbow consists primarily of the integration of a mast-mounted millimeter wave fire control radar (FCR), a radar frequency interferometer (RFI), and a radar frequency fire-and-forget HELLFIRE missile onto the Apache. Longbow's digitized target acquisition system provides automated detection, location, classification, prioritization, and target handover. Longbow will significantly enhance situational awareness of both friendly and enemy air and ground dispositions through secure voice and digital data burst information exchanges to both air (for example, other AH-64Ds, RAH-66 Comanche, F-15/16s, Joint-STARS) and ground assets by using the jointly developed improved data modem (IDM) and the communication suite. This allows the Apache to provide accurate battlefield information for intelligence, targeting, and decision support. Commanders and their staffs now will have a shared picture of the battlefield for real-time command, control, and situational awareness, speeding the tempo of the battle with efficient battle management and minimized fratricide. The AH-64D cockpit is redesigned to digitize and multiplex all systems. The MANPRINT crew stations have multifunction displays to reduce pilot work load and increase effectiveness. The modernized Apache heavy attack team now will be able to provide a truly "coordinated" rapid-fire (16 separate targets within 1 minute) capability to the maneuver force commander on a 24-hour basis in day, night, and adverse weather conditions. The Longbow FCR and RFI are housed in a mast-mounted assembly above the helicopter's main rotor system. The processors for the radar are located in the aircraft's avionics bays. The Apache Longbow consists of the AH-64 aircraft, modified with changes necessary to effectively and efficiently integrate the Longbow radar and missile. Changes include additional power, expanded avionics bays, additional cooling, upgraded processors, integrated avionics, MANPRINT crewstations, and data modems that allow situation and target data transfer to compatible systems on the digital battlefield.

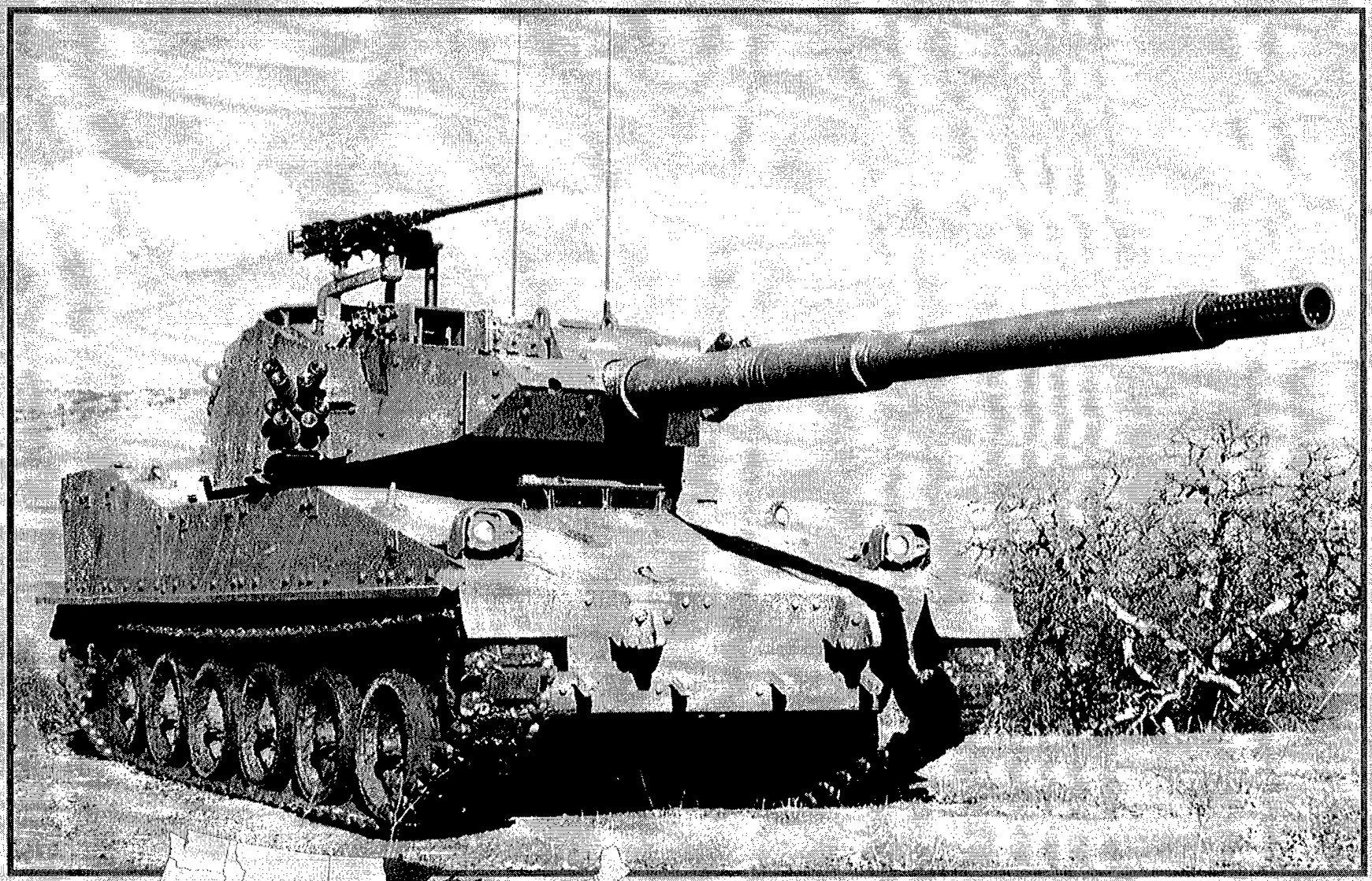
FOREIGN COUNTERPART: No known foreign counterpart.

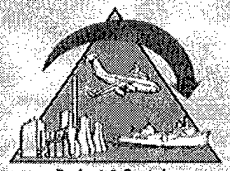
PROGRAM STATUS: The initial Operational Test and Evaluation, conducted from January through March 1995, proved the Apache Longbow to be an operationally effective and suitable weapon system. The current program objective calls for 227 Longbow fire control radar mission kits capable of being installed on the Apache's modernized fleet (758 minus attrition) being upgraded to the new AH-64D baseline configuration. The Apache Longbow will add significant warfighting capability to the combined arms team through increased survivability, lethality, and versatility, as well as through long-term reliability improvements.

PROJECTED ACTIVITIES: Lot I Production FY96.

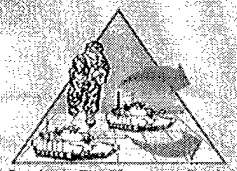
PRIME CONTRACTOR: Joint Venture: Lockheed Martin (Orlando, FL) and Westinghouse (Baltimore, MD)
McDonnell Douglas (Mesa, AZ)

* See appendix for list of subcontractors.





Project & Sustain



Dominate The Maneuver Battle

MISSION: The AGS will provide direct fire support to early deploying, light forces when tanks are not available.

CHARACTERISTICS: The AGS is a lightweight armored vehicle capable of supporting early entry forces in the absence of heavy armor. The AGS will replace the M551 Sheridan. It has significantly improved tactical mobility, lethality, and survivability. The AGS is the Army's only armored vehicle specifically designed for delivery by air. As such, it is considerably lighter than traditional main battle tanks and, though well armed, it is not intended to fight other tanks alone. The AGS is capable of Low Velocity Air Drop (LVAD Parachute) or more conventional roll-on/roll-off delivery by airlift aircraft. A C-130 can carry one AGS, while the larger C-141, C-17, and C-5A can carry two, three, and five AGSs respectively.

Weight:	LVAD Drop Package 42,000 lb; RO/RO < 44,000 lb
Range:	160 km (LVAD configuration); 480 km (combat loaded)
Speed:	64 kph hard-surface roads; 40 kph secondary roads
Ordnance:	Main gun (XM-35) 105 mm/30 rd, with autoloader
Crew:	3

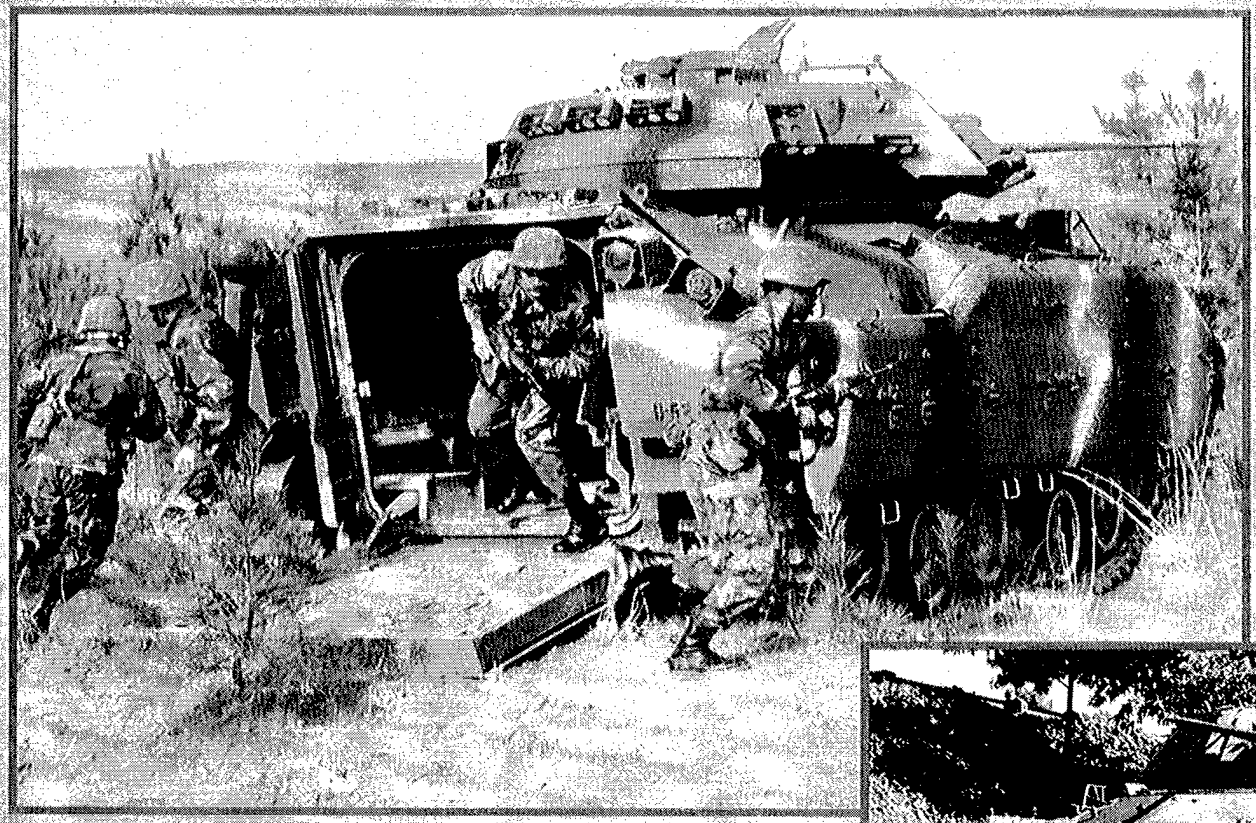
FOREIGN COUNTERPART: Russia: ASU-85

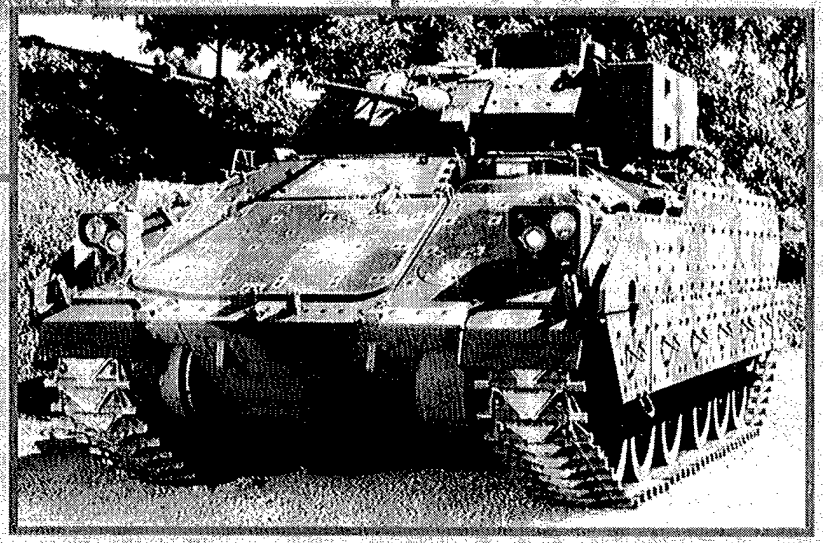
PROGRAM STATUS: Milestone I/II Review was completed in May 1992. The Engineering and Manufacturing Development contract was awarded to FMC Corporation, Ground Systems Division (now United Defense, LP), in June 1992 for a ballistic structure, six test vehicles, and technical data. A Critical Design Review was completed in September 1993. Six pre-production prototypes underwent technical testing in FY94-95. Early User Test and Experimentation (EUT&E) was completed in June 1995 and was highlighted by a successful LVAD of a prototype AGS.

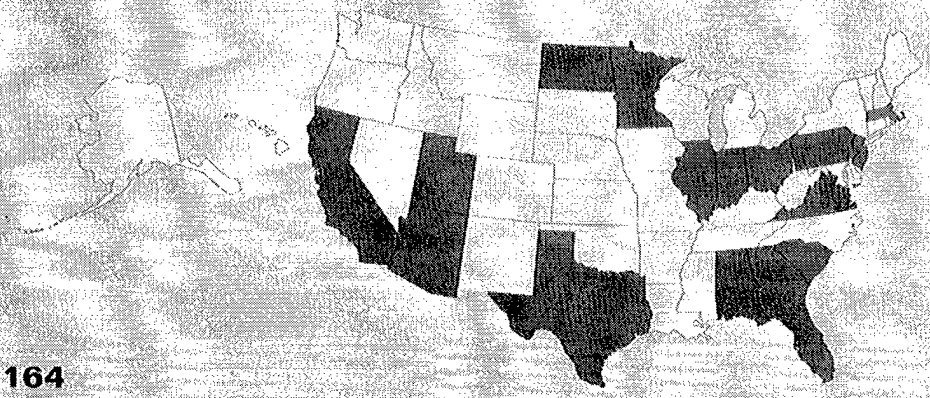
PROJECTED ACTIVITIES: Live fire testing and Initial Operational Test and Evaluation (IOT&E) will be conducted in FY96. A full-rate production decision is scheduled for March 1997 (MS III).

PRIME CONTRACTOR: FMC Corp. (United Defense , LP) (San Jose, CA; Anniston, AL; Aiken, SC)

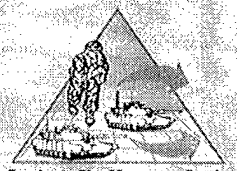
* See appendix for list of subcontractors.







Protect The Force



Dominate The Maneuver Battle

MISSION: The Bradley Fighting Vehicle provides an armored, fully-tracked, fighting vehicle that has superior cross-country mobility, mounted firepower, protection against artillery and small arms threats, and enhanced situational awareness (A2 "Operation Desert Storm" (ODS) and A3 variant). The Bradley is able to close with and destroy enemy forces in support of mounted and dismounted infantry and cavalry combat operations.

CHARACTERISTICS:

Weight:	67,000 lb (combat loaded)
Crew:	3 man crew vehicle with 6 man infantry squad or 2 man scout team
Length:	21.5 ft
Power train:	600 hp
Height:	9.92 ft
Range:	260 mi
Width:	10.5 ft
Road speed:	38 mph
Main armament:	25 mm (cannon) chain gun
Swim speed:	4 mph
Secondary armament:	TOW-2 missile subsystem, 7.62 mm coaxial machine gun

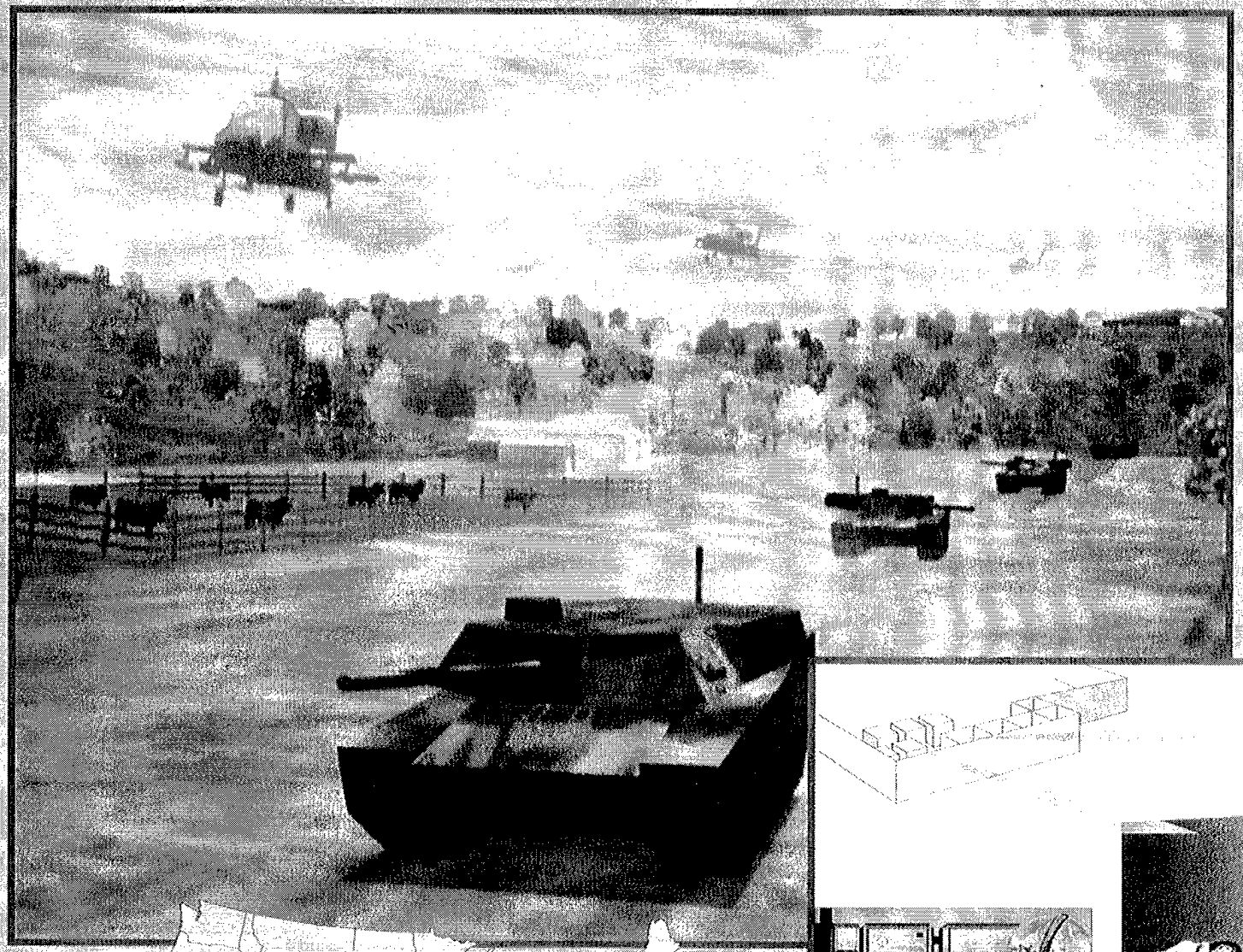
FOREIGN COUNTERPART: Russia: BMP-1,2,3 United Kingdom: MCV-80 Warrior France: AMX-10P

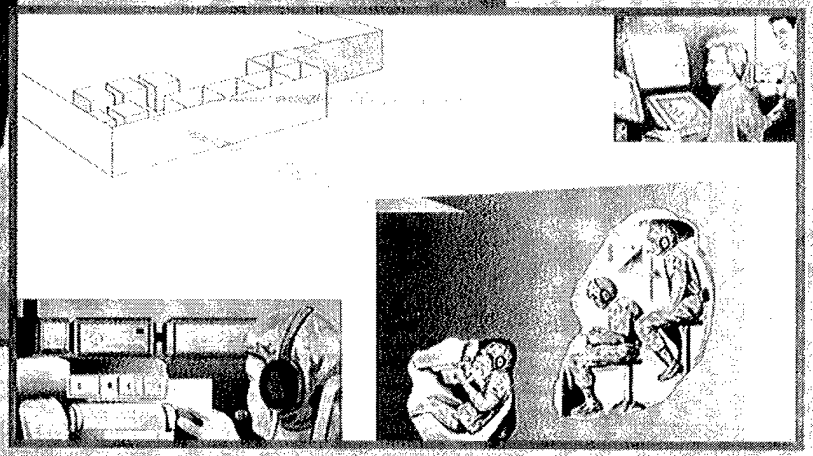
PROGRAM STATUS: By the end of 1994 the Army had produced a total of 6,724 Bradleys, 4,641 in the M2 Infantry configuration and 2,083 in the M3 Cavalry configuration. Three versions of the M2/M3 have been procured: 2,300 "basic," or A0 Bradleys; 1,371 A1 Bradleys which incorporates the TOW 2 missile subsystem; and 3,053 A2 "high survivability" vehicles. Currently, the Army is conducting depot conversion of A0 and A1 Bradleys to the A2 configuration, modifying 1,423 A2s to the A2 ODS configuration, and preparing to upgrade 1,602 A2s to the A3 configuration.

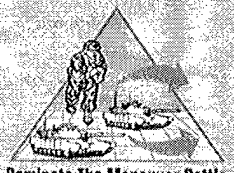
PROJECTED ACTIVITIES: M2/3A0s and A1s will continue to be upgraded to the A2 configuration in FY96. Selected M2/3A2s will be modified with the ODS upgrade package through FY02. The First Unit Equipped (FUE) for the A2 ODS variant is FY96. The M2/3A3 vehicle configuration is currently in EMD with FUE scheduled for FY00.

PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (San Jose, CA; Aiken, SC)

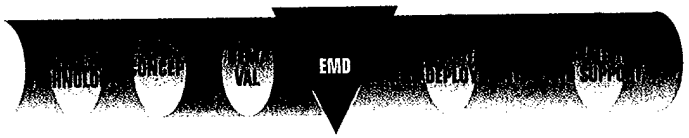
* See appendix for list of subcontractors.







Dominate The Maneuver Battle



MISSION: The CCTT provides realistic individual and collective training for vehicle crews on a simulated battlefield.

CHARACTERISTICS: The CCTT's function is to train active and reserve component M1 Tank and M2/3 Bradley crews on mission training plan based collective (crew through battalion task force) tasks and skills in command, control, communications, and maneuver on a simulated, fully interactive, real-time battlefield. The CCTT will simulate, in real time, the conduct of combat operations in a realistic environment with an appropriate and challenging opposing force that will require realistic individual, crew, and staff actions, placing the stresses of combat on all participants. The CCTT is fully distributed interactive simulation (DIS) compliant and is capable of conducting joint/coalition combined arms training with other CCTT interoperable training systems. The system will allow individuals, crews, and units to operate in a simulated combat environment, reducing the impact of restrictions of weapon effects, safety, terrain limitations, and time, and will assist in overcoming the effects of crew turbulence and scarce resources.

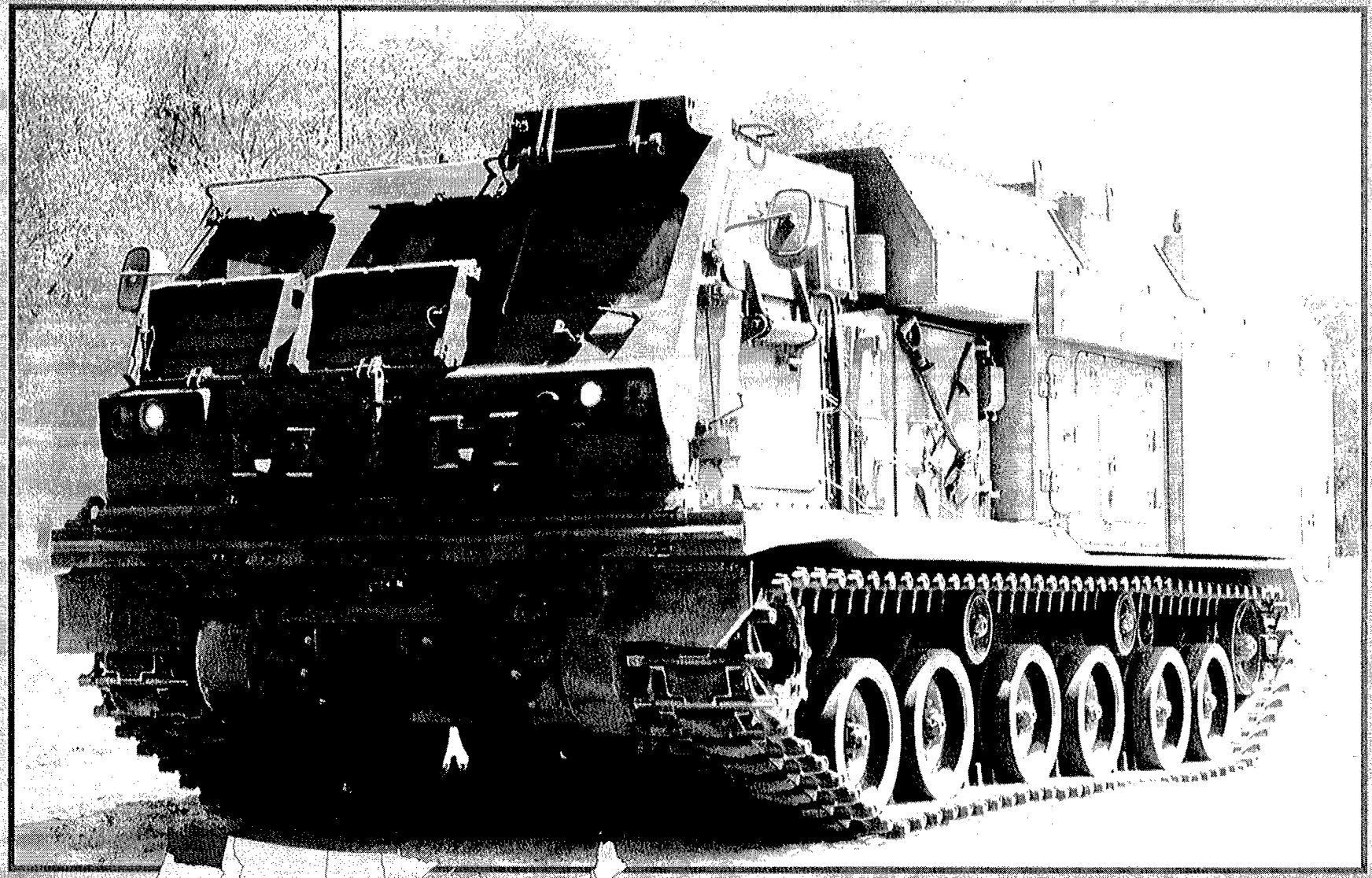
The CCTT program comprises a group of fully interactive networked simulators and command, control, and communications workstations, replicating the M1 and M2/3 vehicles and weapon systems of a company/team operating on a simulated real-time battlefield. The system will exist in both fixed-site and mobile versions. The fixed-site version will be static at all times during operation. The mobile version will be static during operation but will move over primary and secondary roads during transport from site to site. The mobile version is capable of deploying with the unit during contingency operations.

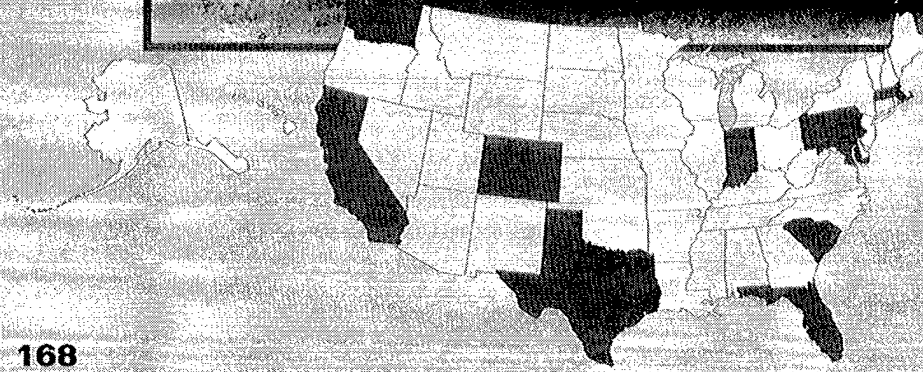
PROGRAM STATUS: The CCTT program successfully completed Milestone I/II ASARC. The contract was awarded in November 1992.

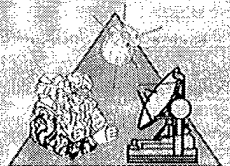
PROJECTED ACTIVITIES: Continue spiral development of software and continue procurement of Quickstart hardware.

PRIME CONTRACTOR: Loral (Manassas, VA)

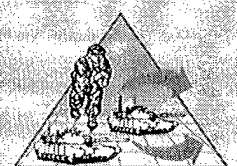
* See appendix for list of subcontractors.



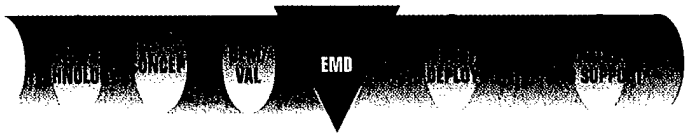




Win Information War



Dominate The Maneuver Battle



MISSION: The Command and Control Vehicle (C2V) provides a fully tracked, armored command and control platform for use by the heavy force during mobile operations. The C2V gives battalion-through-corps–level battle staff a mobile, survivable, and responsive command vehicle with digital command, control, communications, computers and intelligence (C4I) capabilities that accommodates the Army Battle Command System (ABCS). This vehicle delivers true C2 on-the-move capabilities for the maneuver commander.

CHARACTERISTICS: The C2V provides a platform for battalion to corps level battle staff to control the battle while on the move. The C2V uses the MLRS chassis with a mission module system enclosure to provide space for up to four computer work stations and a complete suite of communications equipment. Key features of the vehicle are: on-board power generation, integrated environmental control, NBC protection, a drive train capable of matching speed and mobility with the supported force, a wireless LAN, and an integral 10 meter mast antenna system.

Weight:	57,000 lb (66,000 lb max capacity)	Crew:	Crew of 8
Transportability:	C-5/C-17	Speed:	38 mph
Range:	275 mi	Maximum grade:	60 %
Fording depth:	40 in	Cooling:	40,000 Btu/hr
NBC protection:	Full collective over pressure protection	Electrical power:	43 kW
Antenna:	10-m telescoping mast		

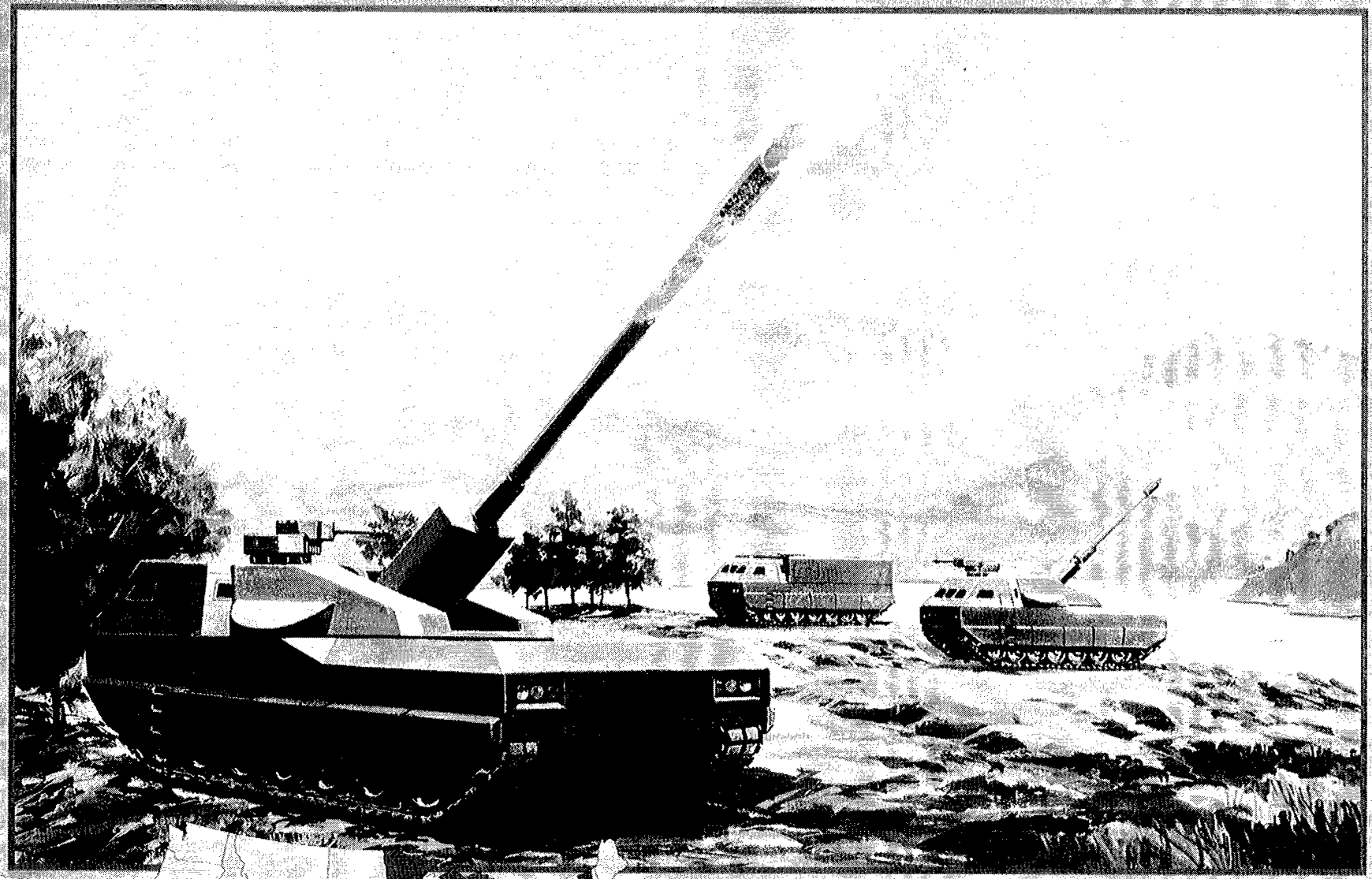
FOREIGN COUNTERPART: No known foreign counterpart.

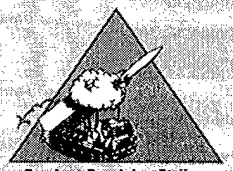
PROGRAM STATUS: The C2V program achieved Milestone (MS) 0 in March 1993 and a combined MS I/II in December 1993. During REFORGER 92, CINC USAREUR conducted demonstrations of the C2V concept using two prototypes as division- and brigade-level command post vehicles. These vehicles were refurbished and used as brigade command post vehicles during Desert Hammer VI, the digital Advanced Warfighting Experiment (AWE) conducted at the National Training Center in April 1994. In addition, an advanced prototype vehicle has been used in contractor testing and user experimentation. C2V entered EMD in December 1993. In September 1994 PEO C3S awarded a competitive contract for the development of the C4I mission module to Loral Western Development Labs. In December 1994, PEO ASM awarded a sole source contract to United Defense Limited Partnership for the vehicle and mission module integration.

PROJECTED ACTIVITIES: Preproduction Qualification testing for the C2V begins in FY96 with Low Rate Initial Production (LRIP) scheduled to begin in FY97. The First Unit Equipped (FUE) date for the C2V is FY99.

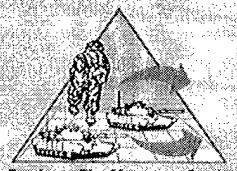
PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (San Jose, CA; Aiken, SC)
Loral (Loral Western Development Labs) (San Jose, CA)

* See appendix for list of subcontractors.





Conduct Precision Strikes



Dominate The Maneuver Battle

MISSION: Crusader, formerly called the Advanced Field Artillery System (AFAS) and the Future Armored Resupply Vehicle (FARV), will be the indirect fire support "system of systems," providing direct and general support fires to maneuver forces on the future battlefield.

CHARACTERISTICS: The Self Propelled Howitzer (SPH) is a 155 mm self-propelled howitzer system that will provide a significant increase in artillery survivability, lethality, mobility, and operational capability and effectiveness through use and integration of advanced technology in its subsystems and combat components. The SPH will deliver unprecedented firepower capabilities at extended ranges. Some of the SPH critical technologies and capabilities include a regenerative liquid propellant gun, XM46 insensitive liquid propellant, autosettable multioption fuze, automated ammunition-handling system, enhanced survivability, and improved mobility. The armored Resupply Vehicle (RSV) resupply vehicle will provide the foundation for resupply of ammunition and fuel for the SPH. Inserting high-payoff technologies in robotics, automation, expert systems, vetronics, and improved ammunition propulsion into the resupply process, the RSV will provide the necessary ammunition to meet the expected firing rates; meet the goals for autonomous operations; and capitalize on cost and operational advantages of component commonality. RSV critical technologies and capabilities include a teleoperated docking arm, automated ammunition resupply system, automated fuel transfer system, and improved mobility. These systems, when fielded, will displace the M109A6 Paladin self-propelled howitzer and M992 field artillery ammunition supply vehicle in rapidly deployable and forward-deployed forces.

SPH

Range:	40+ km (assisted)
Rate of fire:	10-12 rd/min
Multiple round, simultaneous impact:	4 rd (1 AFAS)
Ammo storage:	60 fuzed rd
Crew:	3 (operable by 1)

RSV

Automated rearm:	12 rd/min
Automated refuel:	132-190 L/min
Range:	450 km
Speed:	48 mph highway; 30 mph cross country
Ammo storage:	130-200 fuzed rd
Crew:	3

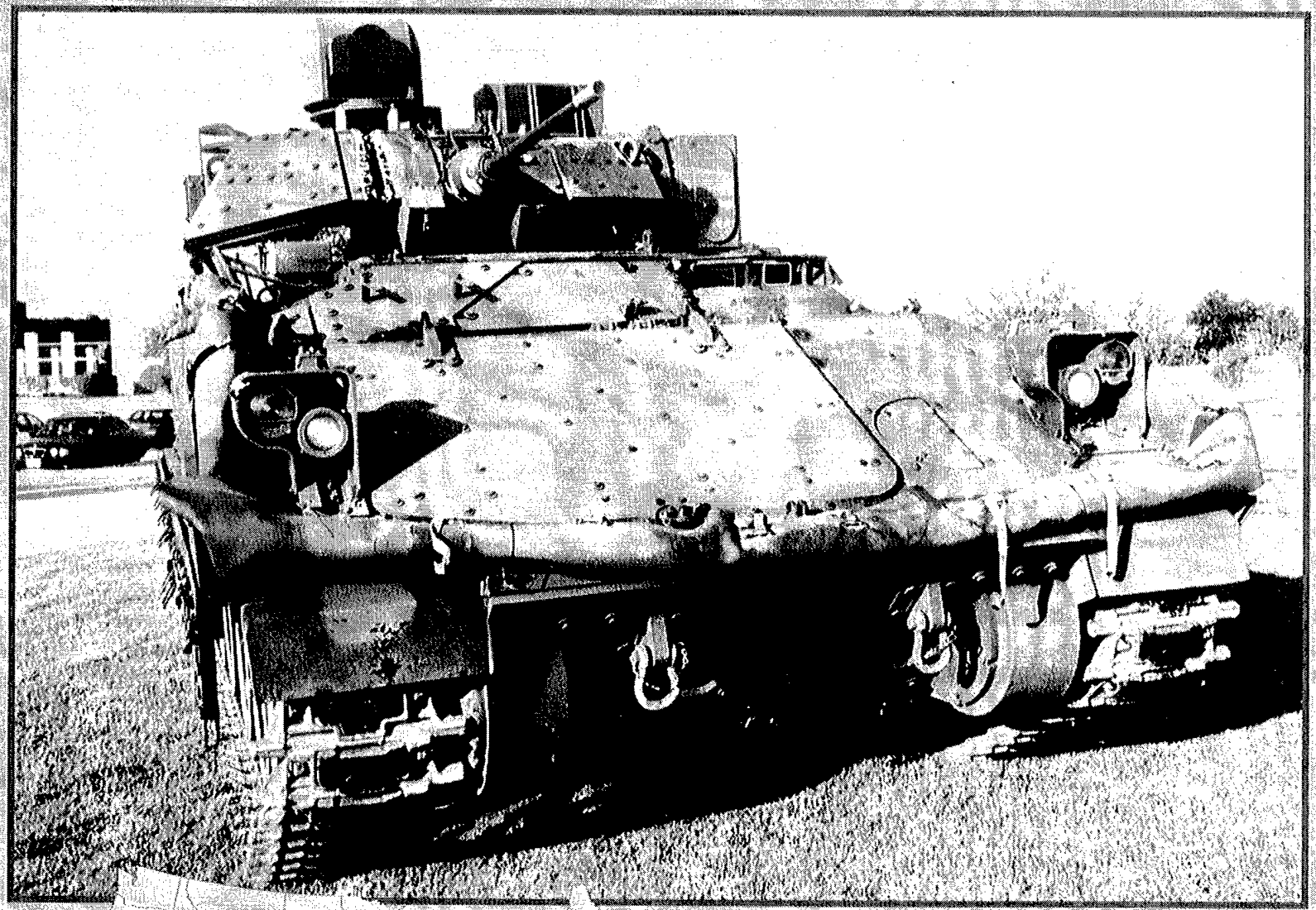
FOREIGN COUNTERPART: No known foreign counterpart.

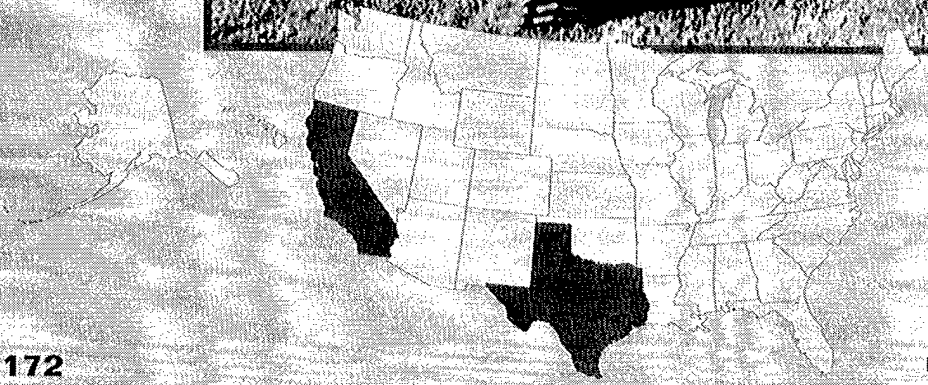
PROGRAM STATUS: In 1991, the Army selected liquid propellant (LP) as the propellant of choice for its 21st century artillery weapon system. In 1992, the Army successfully completed LP firings at Yuma Proving Grounds, Arizona; demonstrated fuze and projectile compatibility; demonstrated high output and quality LP manufacturing process; and successfully demonstrated the firing of a multioption Fuze for Artillery. In 1993/1994, the Army fabricated/assembled a RLPG weapons hardstand which demonstrated 12 rounds per minute automated ammunition handling, azimuth and elevation slew rates, pointing accuracy and integrated technical and tactical fire control; fabricated and assembled an Automotive Test Rig with a LV100, 1500 horsepower engine, electric drive and self-cleaning air filter; fabricated and assembled a four-man reconfigurable crew module which demonstrated man machine interface, full audio, video and data collection capabilities; successfully pumped LP at greater than rates (60+ gallons/minute); and demonstrated ammunition transfer rates of 12 rounds per minute. Currently, Crusader is in the Demonstration and Validation (DEM/VAL) phase of development.

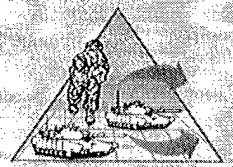
PROJECTED ACTIVITIES: PEO, Field Artillery Systems/Commandant, FA School; in-process review scheduled for 3QFY97.

PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (Minneapolis, MN)

* See appendix for list of subcontractors.







Dominate The Maneuver Battle

MISSION: The AN/VAS-5 Driver's Vision Enhancer (DVE) provides the drivers of combat and tactical wheeled vehicles with the capability of continuing operations during conditions of darkness or degraded visibility.

CHARACTERISTICS: The DVE is designed to provide low-cost thermal imagery that increases the user's mobility in all weather, day or night, and in battlefield obscurants. The DVE provides mobility under the same conditions as the target engagement sensors providing a critical Go vs. No Go capability. DVE provides situational awareness, target and ambush detection, vehicle tracking, and allows support to keep pace with the combat force. The sensor module is a second generation Forward Looking Infrared (FLIR). The output device is a flat-panel display and control module that employs state-of-the-art technology and provides ease of operation interface controls. Standard video may be distributed to other vehicle crew members. The DVE also provides the driver's interface to battlefield digitization.

As a designated Horizontal Technology Integration (HTI) system, the DVE is readily adaptable to specific combat and tactical wheeled vehicles across the fleet and identified replacement vehicles:

Bradley M2A2 ODS and M2A3
XM8 Armored Gun System
C2V Command & Control Vehicle
Heavy Expanded Mobility Tactical Truck—HEMTT
Heavy Equipment Transporter System—HETS
Family of Medium Tactical Vehicles—FMTV
M58 Smoke Vehicle
Abrams M1A2 and USMC M1A1
USMC Light Armored Vehicle
High Mobility Multipurpose Wheeled Vehicle—HMMWV
Palletized Loading System—PLS

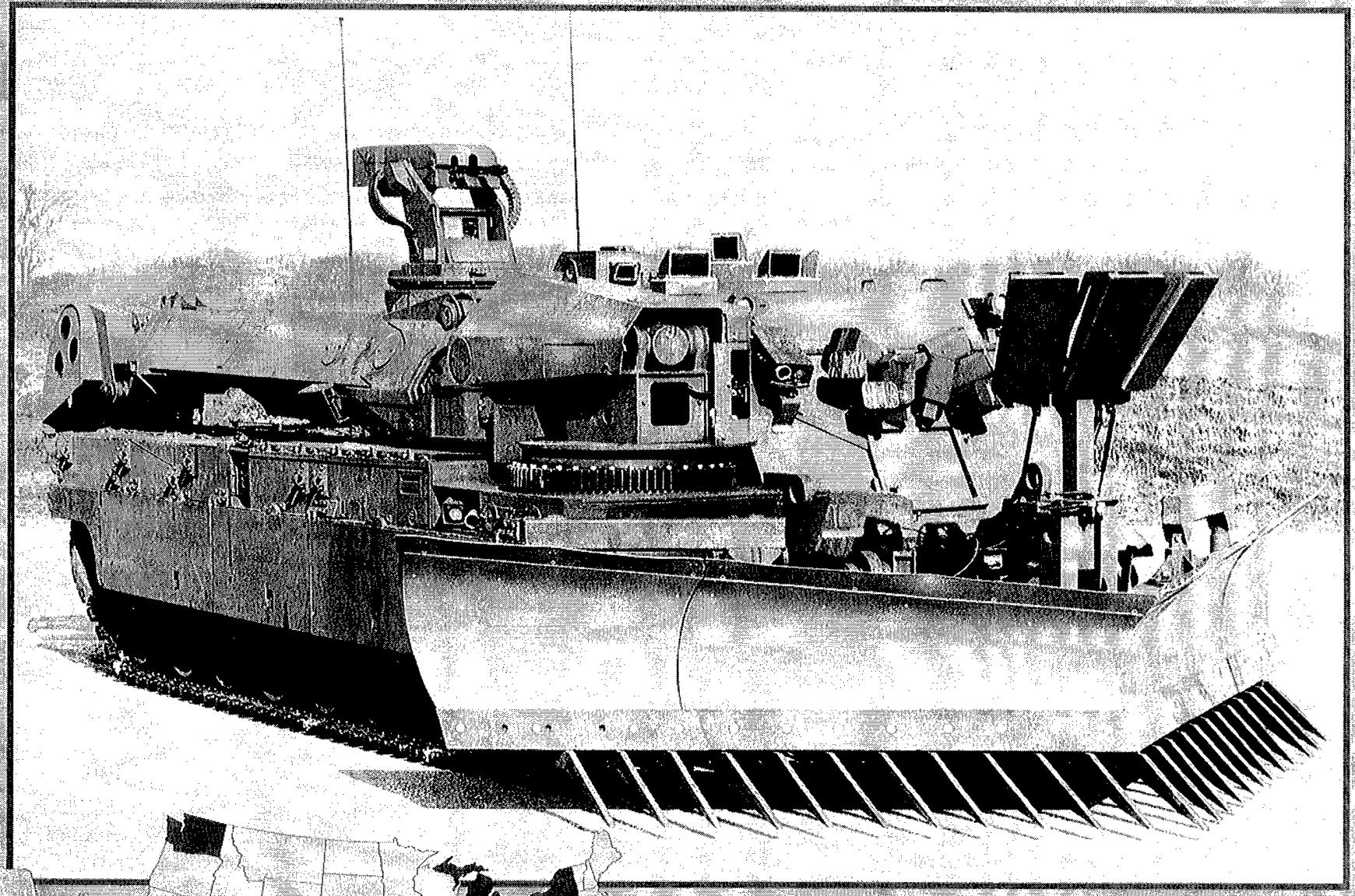
FOREIGN COUNTERPART: No known foreign counterpart.

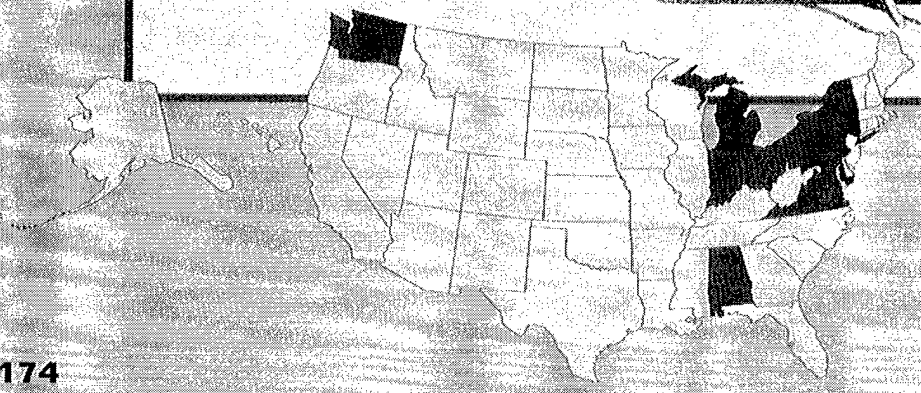
PROGRAM STATUS: Limited procurement contract awarded 30 August 1995.

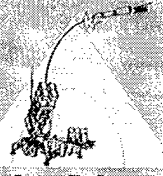
PROJECTED ACTIVITIES: Initial fielding scheduled for 4QFY96 concurrent with Bradley M2A2 ODS initial fielding.

PRIME CONTRACTOR: Texas Instruments (Dallas, TX)

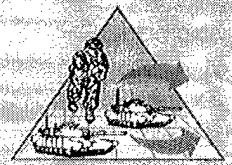
* See appendix for list of subcontractors.







Protect The Force



Dominate The Maneuver Battle

MISSION: The Grizzly, previously the Breacher, provides an in-stride capability to overcome simple and complex obstacles.

CHARACTERISTICS: The system will breach a full-width, clear lane to allow maneuver force mobility through minefields, rubble, tank ditches, wire, and other obstructions. The Army currently has no system with these capabilities.

The Grizzly is an M1 Abrams chassis-based system. It will be equipped with a full-width mine clearing blade and a power-driven excavating arm. While buttoned up, the crew of two will be able to operate all systems and drive the vehicle from either crew station.

FOREIGN COUNTERPART: Russia: IMR-2 Germany: Pionierpanzer 2

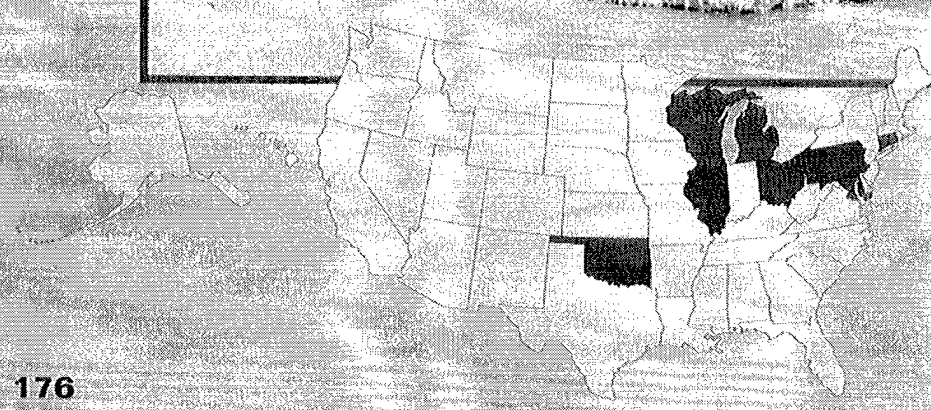
PROGRAM STATUS: The Breacher program was initiated in FY92 as a result of lessons reinforced during Operation Desert Storm and as a consequence of the deferral of the Combat Mobility Vehicle (CMV) during the Armored Systems Modernization (ASM) restructure. The Army has leveraged the work conducted under the ASM-CMV Advanced Technology Transition Demonstrator (ATTD) program to accelerate the development cycle. A sole-source contract was awarded to United Defense, LP (formerly BMY) in September 1992 for Demonstration and Validation. Prototypes were delivered in 4QFY95.

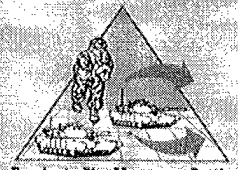
PROJECTED ACTIVITIES: Milestone II is planned for 3QFY96.

PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (York, PA)

* See appendix for list of subcontractors.


RO4




Dominate The Maneuver Battle

MISSION: The Hercules (M88A1E1 Improved Recovery Vehicle) is a full-tracked, armored vehicle developed for towing, winching, and hoisting operations supporting battlefield recovery operations and evacuation of heavy tanks and other tracked combat vehicles.

CHARACTERISTICS: The Hercules will be type classified as the M88A2. The Hercules uses the existing M88A1 chassis but significantly improves towing, winching, lifting, and braking characteristics. The Hercules is the primary recovery support to the Abrams tank fleet, and future heavy systems such as the Breacher, Heavy Assault Bridge, and heavy self-propelled artillery.

Length:	339 in	Power train:	12 cylinder, 1,050 hp air-cooled diesel engine with 3-speed automatic transmission
Width: 144 in			
Height: 123 in			
Weight:	70 ton	Cruising range:	200 mi
Speed (w/o load):	29 mph	Draw bar pull:	70 ton
(w/load):	20 mph	Boom capacity:	35 ton
Armament:	One .50 caliber machine gun	Winch Capacity:	70 ton / 300 ft
		Aux. Winch Capacity:	3 ton / 670 ft

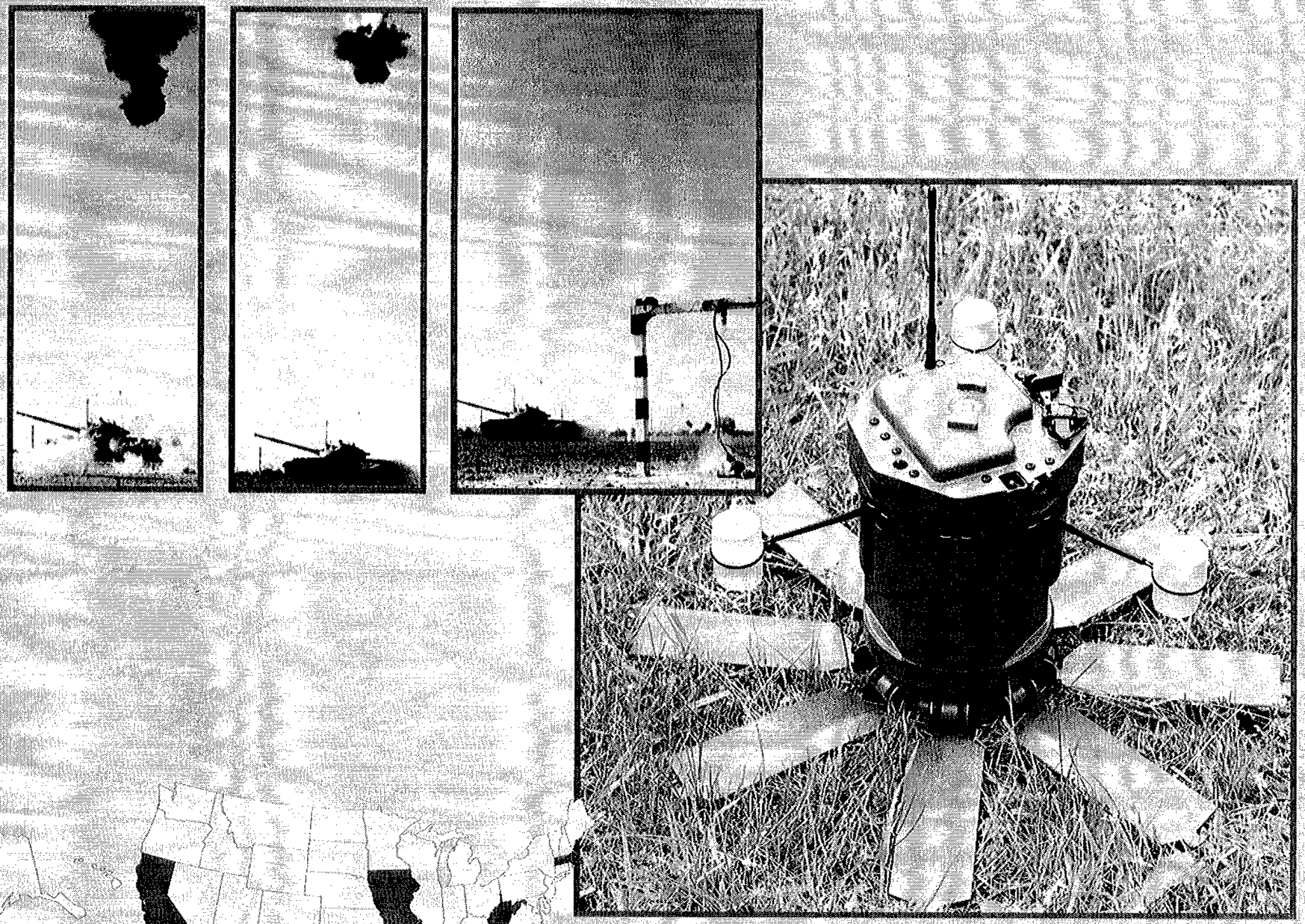
FOREIGN COUNTERPART: There is no foreign counterpart that provides the combined weight, towing, winch, and hoist capacities developed in the Hercules. However, many foreign nations do incorporate recovery systems on existing recovery chassis' or main battle tank chassis'.

PROGRAM STATUS: The Hercules went into low rate initial production on 9 September 1994 after successfully demonstrating performance characteristics over 12,000 miles of RAM, performance, and user evaluation.

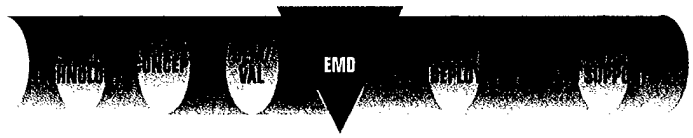
PROJECTED ACTIVITIES: PQT/IOTE is scheduled for 2–4QFY96.
Milestone III is scheduled for 4QFY96.
First Unit Equipped is scheduled for 1QFY97.

PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (York, PA)

* See appendix for list of subcontractors.



Dominate The Maneuver Battle



MISSION: The mission of the Hornet (Wide Area Munition) is to counter the enemy's mobility. It will delay, disrupt and canalize enemy vehicle movement in the close battle.

CHARACTERISTICS: The Hornet is the Army's first generation of a smart, autonomous top attack munition. It employs seismic and acoustic sensors to detect, classify and track a target. Once the target is validated by internal control electronics and within the 100 meter lethal radius, the munition determines the optimum firing point and launches a submunition over the target. The sublet acquires the target by infrared sensor and fires a tantalum Explosively Formed Penetrator (EFP) at the top of the target vehicle.

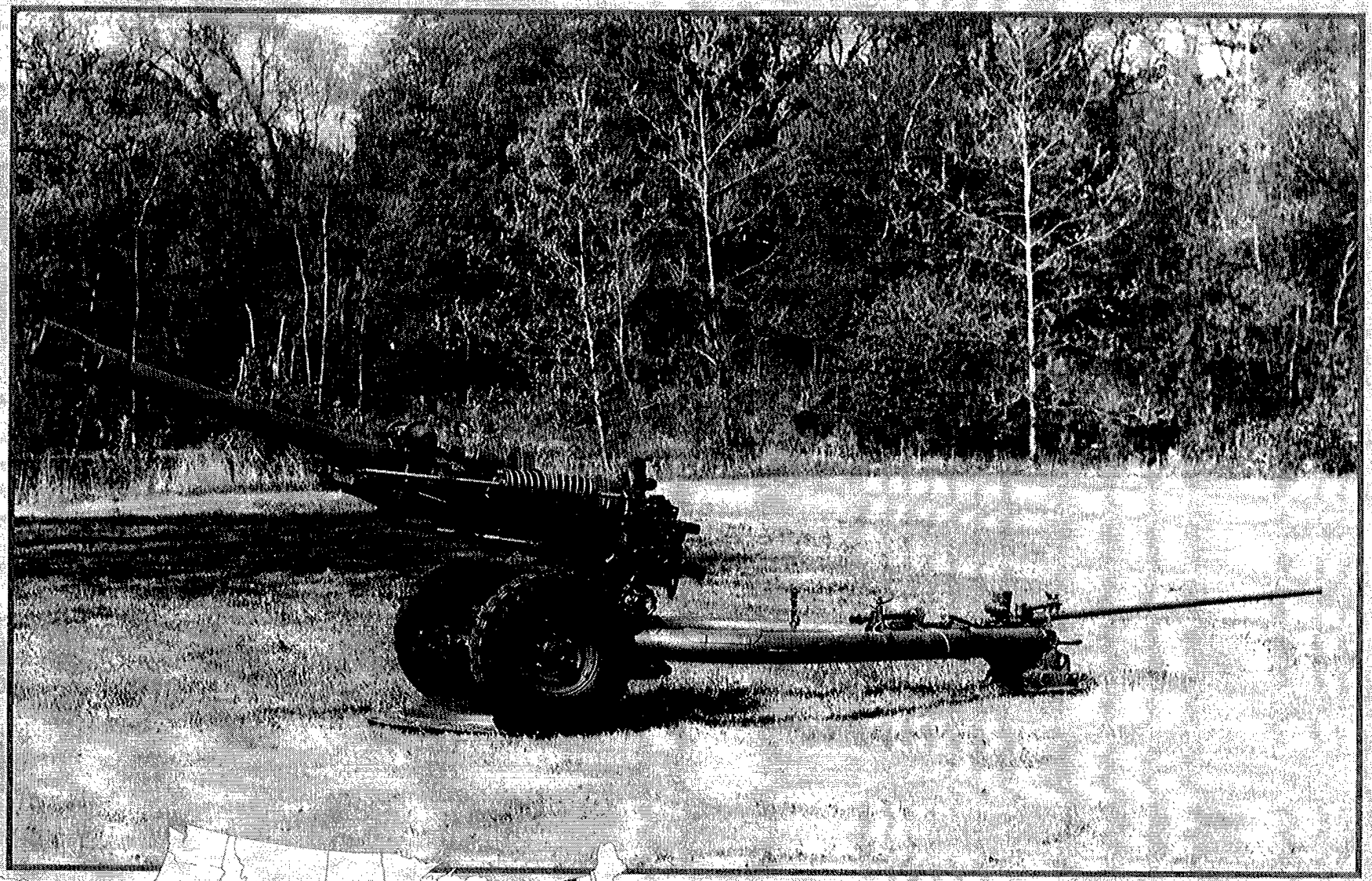
FOREIGN COUNTERPARTS: No known foreign counterpart.

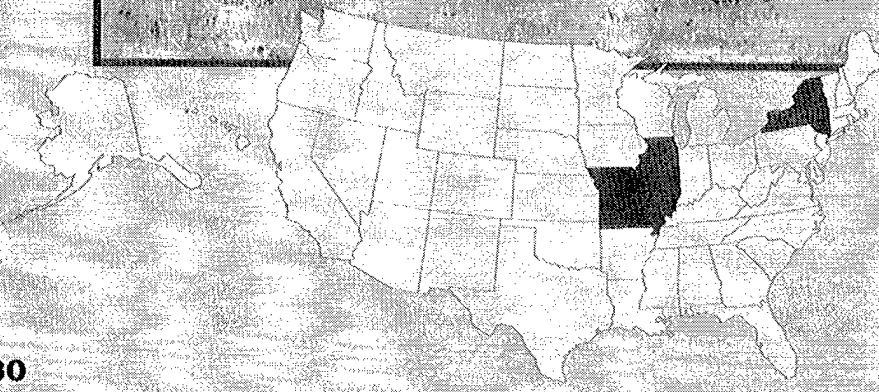
PROGRAM STATUS: The Hornet is currently in EMD, with a Low Rate Production decision planned for 1QFY96.

PROJECTED ACTIVITIES: Low rate initial production contract is planned for a 2QFY96 award.
TT/IOTE will be completed by 4QFY96.

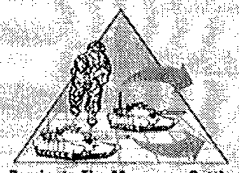
PRIME CONTRACTOR: Textron Inc. (Textron Defense Systems) (Wilmington, MA)

* See appendix for list of subcontractors.





Project & Sustain



Dominate The Maneuver Battle

MISSION: The M119A1 howitzer provides improved field artillery fire support for the Army's airborne, air assault, and light infantry divisions.

CHARACTERISTICS: The M119A1 howitzer is a lightweight, 105 mm, towed howitzer that fires all conventional 105 mm ammunition in the inventory. Its prime mover is the High Mobility Multipurpose Wheeled Vehicle (HMMWV). It is air mobile with the UH-60 Black Hawk helicopter.

Range:	14.3 km (high explosive); 19.5 km (rocket assisted)
Weight:	4,000 lb
Width:	70 in
Length:	241.5 in
Height:	54 in (traveling configuration)
Crew:	7
Ammunition:	High-explosive, smoke, illumination, high-explosive rocket-assisted, and improved conventional munitions

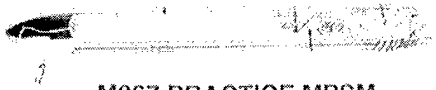
FOREIGN COUNTERPART: The nearest counterpart is the L119 British Light Gun and the Russian-developed D-30 122 mm howitzer.

PROGRAM STATUS: The M119 was first fielded to the 7th Infantry Division, Ft Ord, CA, in December 1989. Since the initial fielding, it has been reclassified the M119A1 and fielded to the 82nd Airborne Division in July 1991 and to the 101st Airborne (Air Assault) Division in August 1992.

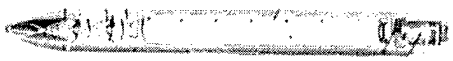
PROJECTED ACTIVITIES: Production of the M119A1 was completed in 1995. Fielding will be complete in 1996.

PRIME CONTRACTORS: Watervliet Arsenal (Watervliet, NY)
Rock Island Arsenal (Rock Island, IL)

* See appendix for list of subcontractors.



M267 PRACTICE MPSM

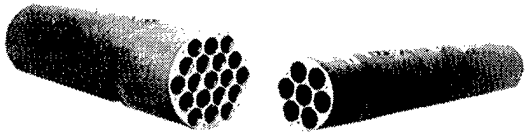


M261 MPSM

M274 SIGNATURE PRACTICE

M151 HE/PD

ATAF, FLECHETTE

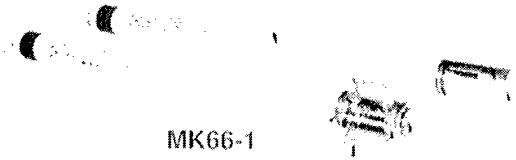


LWL

M151, WITHOUT FUZE

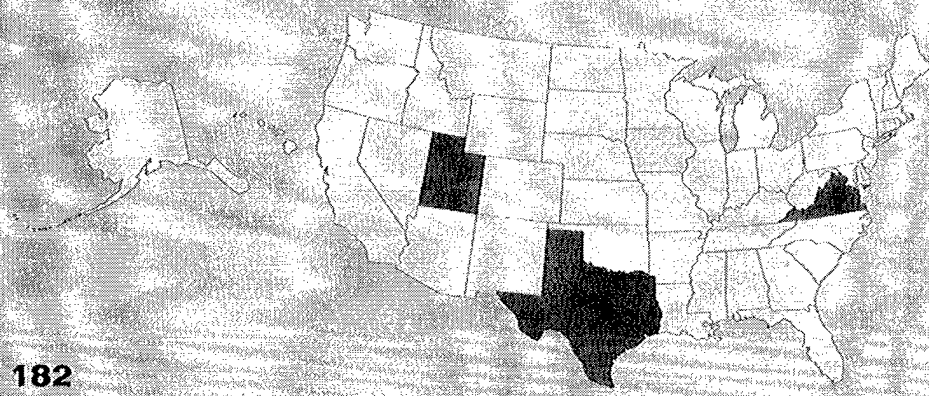
M257 ILLUMINATION

M264 SMOKE



MK66-1

M151 HE/RS



MISSION: The family of HYDRA 70 rockets performs a variety of functions. The war reserve unitary and cargo warheads are used for anti-materiel, anti-personnel, and suppression missions. The family of rockets also includes smoke screening, illumination, and training warheads. HYDRA rockets are fired from Apache, Cobra, and Kiowa Warrior helicopters by the Army and are used from other platforms by Special Operations Forces, the Marine Corps, the Navy, and the Air Force.

CHARACTERISTICS: The warheads fall into three categories:
(1) Unitary warheads with impact-detonating fuzes or remote-set multioption fuzes
(2) Cargo warheads with airburst-range, setable fuzes using the "wall-in-space" concept or fixed standoff fuzes
(3) Training rounds

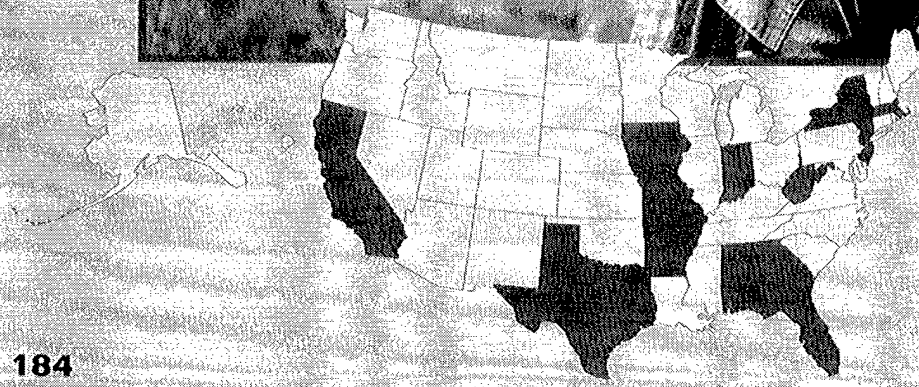
FOREIGN COUNTERPARTS: Although there is no known foreign counterpart, many countries have expressed an interest in coproduction of this system.

PROGRAM STATUS: New Award is scheduled for 30 November 1995.

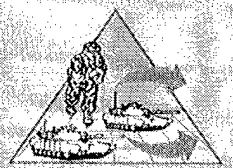
PROJECTED ACTIVITIES: Production will continue through FY96 with the award of the new contract.

PRIME CONTRACTOR: BEI Defense Systems, Inc. (Euless, TX)

* See appendix for list of subcontractors.



Project & Sustain



Dominate The Maneuver Battle

MISSION: The Javelin will provide a man-portable, medium anti-tank capability to the infantry, scouts, and combat engineers.

CHARACTERISTICS: The Javelin is a man-portable, anti-tank system developed for the U.S. Army and U.S. Marine Corps. The system is highly lethal against tanks with conventional and reactive armor. The Javelin comprises two major components: a reusable Command Launch Unit (CLU) and a missile sealed in a disposable Launch Tube Assembly. The CLU incorporates an integrated day/night sight and provides target engagement capability in adverse weather and countermeasure environments. The CLU may also be used in the stand-alone mode for battlefield surveillance and target detection.

The Javelin system will weigh less than 49.5 lb and will have a maximum range in excess of 2,000 m. Javelin's key feature is the use of fire-and-forget technology which allows the gunner to fire and immediately take cover. Additional special features are the top attack and/or direct fire modes (for targets under cover), integrated day/night sight, advanced tandem warhead, imaging infrared seeker, target lock-on before launch, and soft launch (the Javelin can be fired safely from enclosures and covered fighting positions). The Javelin will replace the Dragon.

FOREIGN COUNTERPART: No other fire-and-forget systems exist, but similar systems are the Russian AT-7, the Swedish BOFORS BILL, and the French MILAN 2T.

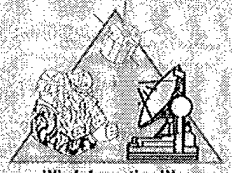
PROGRAM STATUS: The second Low-Rate Initial Production (LRIP) contract was awarded in March 1995. Initial hardware deliveries from LRIP I began in September 1995.

PROJECTED ACTIVITIES: The third LRIP contract is planned for March 1996. First Unit Equipped in June 1996.

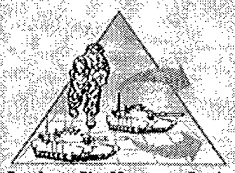
PRIME CONTRACTOR: Texas Instruments/Lockheed Martin Javelin Joint Venture (Lewisville, TX)

* See appendix for list of subcontractors.

Project & Sustain



Win Information War



Dominate The Maneuver Battle

MISSION: The Kiowa Warrior fills the armed scout role for attack helicopter and air cavalry units.

CHARACTERISTICS: The Kiowa Warrior currently is the only practical armed reconnaissance aircraft in the Army inventory until RAH-66 fieldings begin early in the next decade. The OH-58D performs reconnaissance, security, command and control, target acquisition/designation, and defensive air combat missions. The Kiowa Warrior adds armed reconnaissance, light attack, and Multipurpose Light Helicopter (MPLH = rapid deployment, troop lift, cargo, and Medevac) to the basic OH-58D Kiowa mission capabilities. The OH-58D has a Mast-Mounted Sight that houses a Thermal-Imaging System, Low-Light Television, and a Laser Rangefinder/Designator. A highly accurate navigation system permits precise target location that can be handed off to other engagement systems via the Airborne Target Handover System. The Laser Designator can provide autonomous designation for the laser HELLFIRE or for other laser-guided precision weapons. Air-to-Air Stinger (ATAS) provides security against threat aircraft. The armed retrofit program began in FY91 and provides Air-to-Ground weapons and other improvements to previously produced OH-58Ds.

Max gross weight:	5,500 lb
Max speed:	118 kt—clean; 113 kt—armed
Crew:	2
Armament:	ATAS, .50 caliber machine gun, HYDRA 70 (2.75 in) rockets (7-shot pod), HELLFIRE missiles choices; one system per side

FOREIGN COUNTERPART:

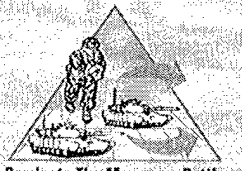
Germany:	BO-105
France:	Gazelle, Alloutte
Russia:	HINDs, HIPs, Hoplites

PROGRAM STATUS: The OH-58 Kiowa is in the 12th year of production. Kiowas began retrofit/remanufacture in FY93 for the Armed Kiowa Warrior version. There have been 225 aircraft fielded through September 1995. Aircraft deployments include the training bases at Fort Rucker and Fort Eustis, and operational units in CONUS, USAREUR, and Korea. The Procurement Objective is currently 382, with a total Army requirement of 507 aircraft. Deliveries will end in December 1997. Armed retrofit is scheduled to conclude in FY98.

PROJECTED ACTIVITIES: 33 aircraft will be retrofitted to Kiowa Warrior.

PRIME CONTRACTOR: Textron Inc. (Bell Helicopter) (Ft. Worth, TX)

* See appendix for list of subcontractors.



Dominate The Maneuver Battle

MISSION: Laser HELLFIRE provides a heavy anti-armor capability for attack helicopters.

CHARACTERISTICS: Laser HELLFIRE is used as the main armament of the U.S. Army's AH-64 Apache and the U.S. Marine Corps' AH-1 Super Cobra attack helicopters. It is also used on the OH-58D Kiowa Warrior. The laser missile homes on a laser spot that can be projected from ground observers, other aircraft, or the launching aircraft itself. This enables the system to be employed in a variety of modes: autonomous, air or ground, direct or indirect, single shot, rapid, or ripple fire.

Version:	**Basic**	**Interim**	**HF II**
Diameter:	7 in	7 in	7 in
Weight:	100 lb	107 lb	100 lb
Length:	64 in	71 in	64 in

FOREIGN COUNTERPART: Numerous countries have one or more wire, radio, or laser homing anti-armor missiles of varying accuracy and lethality.

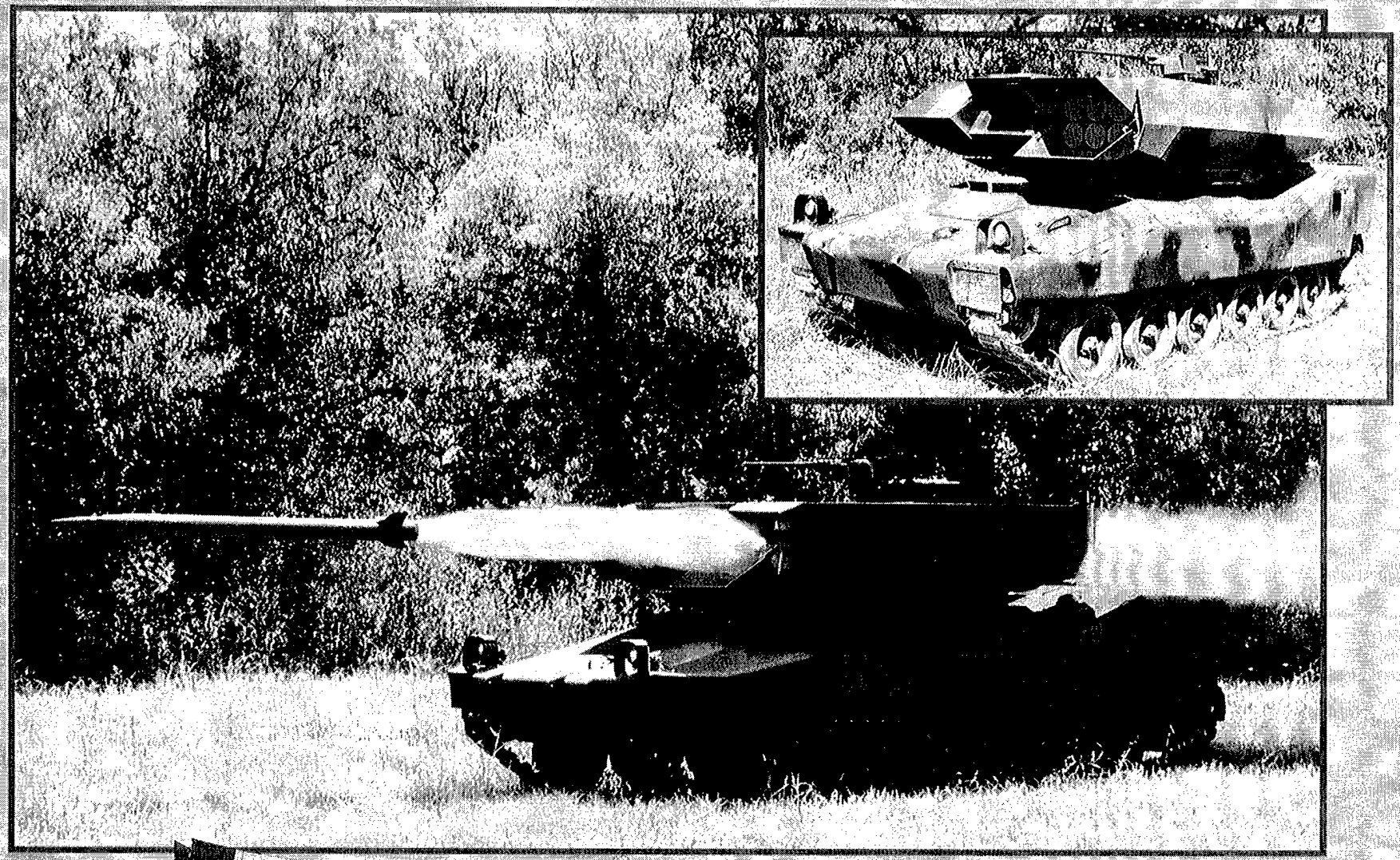
PROGRAM STATUS: There are three versions of the Laser HELLFIRE missile in various stages of the life cycle:
Basic HELLFIRE: Semi-active laser seeker, 31,616 produced by both Lockheed Martin and Rockwell International since 1982. All deliveries have been completed.

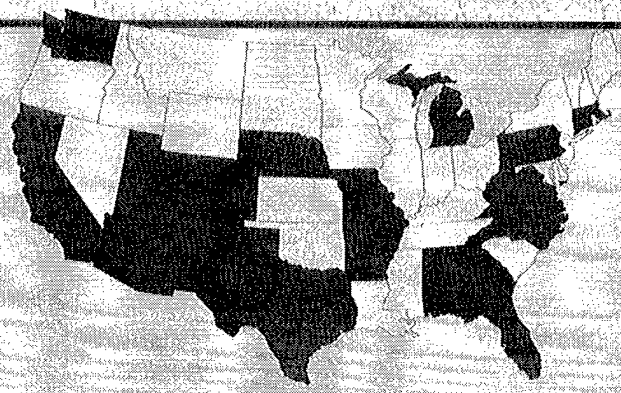
Interim HELLFIRE: Similar to Basic HELLFIRE, but adds a precursor warhead to defeat reactive armor. Final deliveries were completed in January 1994, with 8,807 missiles produced.

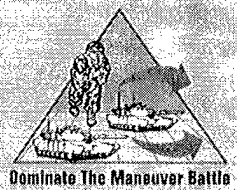
HELLFIRE II: This missile incorporates many improvements over the previous models of HELLFIRE, including laser obscurant/backscatter improvements. Other improvements include electro-optical countermeasures hardening, improved target reacquisition capability, an advanced warhead capable of defeating all projected armor threats into the 21st century, reprogrammability to adapt to changing threats and mission requirements, shipboard compatibility, and regaining the original HELLFIRE missile weight and length. Deliveries began in March 1995.

PROJECTED ACTIVITIES: Deliveries of HELLFIRE II will continue through 1998.

PRIME CONTRACTOR: Rockwell International (Duluth, GA)—Interim HELLFIRE
Lockheed Martin(Orlando, FL)—HELLFIRE II







Dominate The Maneuver Battle

MISSION: The LOSAT will provide a high volume of extremely lethal, accurate missile fire, effective against heavy armor systems at ranges exceeding tank main gun ranges.

CHARACTERISTICS: The LOSAT weapon system consists of a kinetic energy missile (KEM) turret mounted on an air mobile armored combat vehicle chassis. The key attractions of the LOSAT are the tremendous overmatch lethality of the KEM (defeats all predicted future armored combat vehicles) and its deployability, which is compatible with the early entry forces. The LOSAT also will provide increased survivability and countermeasure effectiveness. The LOSAT will operate out to the maximum range of direct fire combat engagements and will provide dramatically increased rates of fire and enhanced performance under day and night, adverse weather, and obscured battlefield conditions. The LOSAT will satisfy critical anti-armor needs of the early entry forces and, in dedicated anti-tank companies of the Mechanized Infantry Battalions, will provide anti-tank fire to fix and destroy enemy-armored formations. This fixing fire will provide tanks and infantry with the capability to dominate the maneuver battle, thus allowing rapid maneuver into the enemy's vulnerable flanks and rear. The LOSAT will replace selected mounted TOW systems.

	KEM
Weight:	177 lb
Length:	112 in
Diameter:	6.4 in
Range:	Greater than TOW
Crew:	3

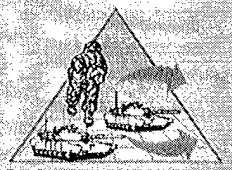
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The LOSAT program began a Technology Demonstration phase of development in 4QFY92. The demonstration provides for the completion of priority risk reduction tasks to the fire control system (FCS), the demonstration of the FCS upgrades in dirty battlefield and flight tests, and the conduct of an early entry force (EEF) demonstration program. The EEF demonstration includes the design, fabrication, and integration of a LOSAT system turret into an Armored Gun System (AGS) chassis, a missile flight test program from the AGS-based LOSAT fire unit, and Advanced Warfighting Experiments (AWE) user testing.

PROJECTED ACTIVITIES: Start fabrication of the AGS prototype.
Conduct 6 missile flight test program from the LOSAT/Bradley Fighting Vehicle prototype.
Start design and fabrication of the Weapon System Turret Assembly for the AGS-based system.
Support Distributive Interactive Simulation Crew Station Simulator activities for the AGS-based system.
Rapid Force Projection Initiative analysis simulation effort and Anti-Armor advanced technology demonstration exercises.

PRIME CONTRACTOR: Loral (Loral Vought Systems) (Dallas, TX)

* See appendix for list of subcontractors.



Dominate The Maneuver Battle

MISSION: Longbow HELLFIRE will provide an adverse weather, fire-and-forget, heavy anti-armor capability for the Army's AH-64D Longbow Apache attack helicopter.

CHARACTERISTICS: Longbow HELLFIRE is a fire-and-forget version of the HELLFIRE missile. The Longbow program also includes development of a mast-mounted Fire Control Radar (FCR) and numerous modifications to the Apache helicopter. The Longbow FCR will locate, classify, and prioritize targets for the Longbow HELLFIRE missile. The Longbow system is being developed for integration onto the Apache and Comanche helicopters. Longbow HELLFIRE incorporates a millimeter wave radar seeker on a HELLFIRE II aft section bus. The primary advantages of the Longbow missile include adverse weather capability (rain, snow, fog, smoke, and battlefield obscurants); millimeter wave countermeasures survivability; fire-and-forget guidance, which allows the Apache to launch and then immediately remask, thus minimizing exposure to enemy fire; an advanced warhead capable of defeating all projected armor threats into the 21st century; and reprogrammability to adapt to changing threats and mission requirements. The combination of Longbow HELLFIRE's fire-and-forget capability and HELLFIRE II's precision guidance will provide the battlefield commander with flexibility across a wide range of mission scenarios, permitting fast battlefield response and high mobility not afforded by other anti-armor weapons.

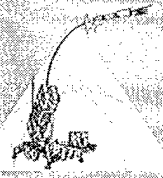
Diameter:	7 in
Weight	108 lb
Length	68 in

FOREIGN COUNTERPART: No known foreign counterpart.

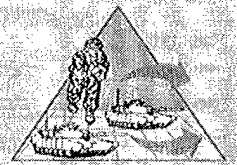
PROGRAM STATUS: The Engineering and Manufacturing Development contract was completed in September 1995 by a joint venture between Lockheed Martin and Westinghouse. The Long-Lead Time Item/Initial Production Facilitation contract was awarded in December 1994. The missile system formally entered production with the successful completion of the Milestone III Defense Acquisition Board on 13 October 1995. The first low-rate initial production contract was awarded in 1QFY96.

PROJECTED ACTIVITIES: First Unit Equipped (FUE) in October 1997.

PRIME CONTRACTOR: Joint Venture: Lockheed Martin (Orlando, FL) and Westinghouse (Baltimore, MD)



Protect The Force



Dominate The Maneuver Battle

MISSION: The M113 FOV provides a survivable, fully tracked, multipurpose carrier that is adaptable to a wide range of diverse battlefield tasks through integration of specialized mission modules.

CHARACTERISTICS: The M113 FOV was produced continuously from 1960 through November 1992. More than 85,000 vehicles, consisting of 35 different variants, are in use by more than 40 countries. The Army's fleet of 25,000 vehicles is used for a variety of tasks such as transportation of infantry and engineer units, command and control functions, fire support operations, medical evacuation, maintenance and supply operations.

	M113A3
Weight:	27,180 lb
Crew:	2 man vehicle crew; variable number of occupants
Height:	8.2 ft
Width:	8.8 ft
Length:	17.4 ft
Range:	300 mi
Power train:	275 hp
Crew:	2
Road speed:	42 mph
Main armament:	.50 caliber machine gun

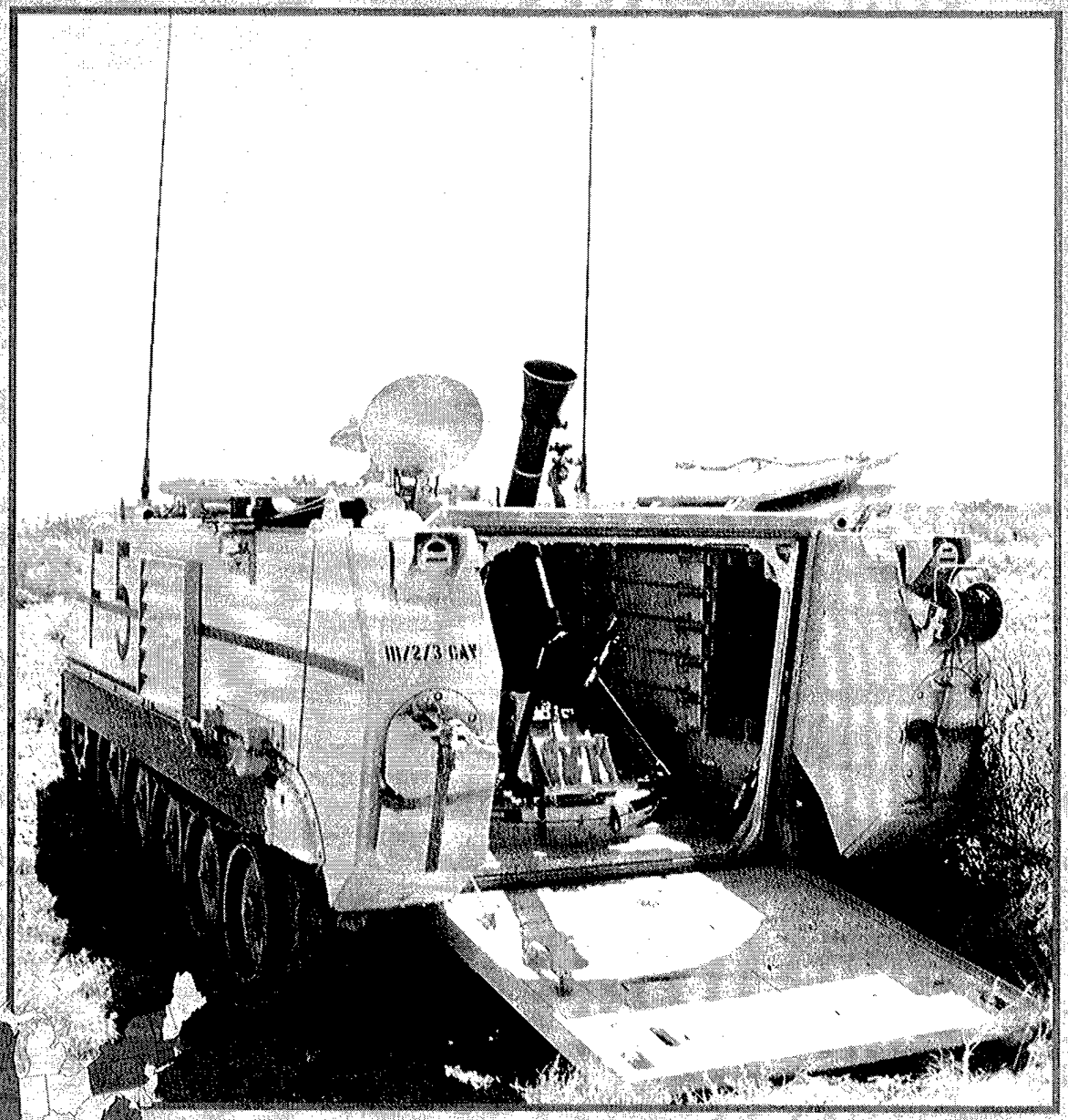
FOREIGN COUNTERPART: Russia: BTR-60, 70, 80 and MTLB series South Africa: Ratel China: YW531

PROGRAM STATUS: Deliveries of new production M113A3s began in FY86 and were completed in FY92. The A3 configuration adds an upgraded engine and transmission (RISE package), armored external fuel tanks, internal spall suppression liners, and optional bolt-on armor. The M113A3 RISE upgrade provides speed and mobility commensurate with the M1 series Abrams tank and the M2/M3 Bradley Fighting Vehicles. Depot conversion programs are currently underway to modify M113A2s to the M113A3 configuration. There are additional conversion programs to upgrade seven M113A2 variants (M1068A3, M1064A3, M1059A3, M981A3, M901A3, M577A3, and M548A3) to the A3 Rise Package configuration.

PROJECTED ACTIVITIES: M113A2s will continue to be upgraded to A3 RISE configuration and fielded throughout the active and reserve components. Force Package 1 units will be fully upgraded to M113A3 Rise configuration by FY02. Force Package 2 units will be fully upgraded by FY12. PM-M113 is exploring the additional growth potential of the M113 FOV.

PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (San Jose, CA; Aiken, SC)

* See appendix for list of subcontractors.



Dominate The Maneuver Battle

MISSION: The 120 mm mortar system will provide improved organic indirect fire support capability to the maneuver unit commander.

CHARACTERISTICS: The 120 mm mortar system is a conventional smoothbore, muzzle-loaded mortar system that provides increased range and lethality over the 4.2-in heavy mortar system. It is employed in both towed and carrier-mounted versions. The 120 mm mortar fires a family of enhanced ammunition being produced in the United States. It replaces the WWII-vintage, 4.2-inch heavy mortar in the mechanized infantry, motorized, armored, and cavalry units.

Range:	7,240 m
Weight:	319 lb
Rate of fire:	4 rd/min, sustained
Crew:	5 (ground-mounted)
Ammunition:	High-explosive, smoke, illumination

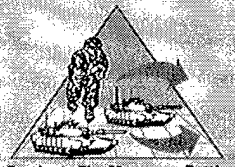
FOREIGN COUNTERPART: The 120 mm smoothbore mortar is used by France, Germany, Denmark, and other allied armies. The Russian-developed counterpart is the M43 120 mm mortar, which has a range of 5,700 meters, weighs 602 pounds, and has a six-man crew.

PROGRAM STATUS: The 120 mm mortar is being produced at Watervliet Arsenal, NY. The 120 mm mortar towed system, M120, was fielded in September 1991 to the 199th Infantry Brigade, Fort Lewis, WA. The M121 carrier-mounted version will eventually be fielded to all remaining armor and mechanized units. The Army plans to field a total of 1,254 systems to replace all 4.2-inch mortars currently in the inventory. The 120 mm mortar enhanced ammunition is currently being produced by Lockheed Martin Ordnance Systems. The Army type classified the M933/934 HE and M930 illumination rounds for production in 1991.

PROJECTED ACTIVITIES: Procurement continues.

PRIME CONTRACTORS: Watervliet Arsenal, (Watervliet, NY) Red River Army Depot (Texarkana, TX)

* See appendix for list of subcontractors.


Dominate The Maneuver Battle

Multi-Purpose Individual Munition/Short Range Assault Weapon (MPIM/SRAW)

MISSION: The Multi-Purpose Individual Munition/Short Range Assault Weapon (MPIM/SRAW) provides a one-man light weight, shoulder fired, fire and forget, multiple purpose munition capable of defeating enemy forces in buildings, reinforced structures, bunkers and future light weight armored vehicles.

CHARACTERISTICS: The MPIM/SRAW will consist of a disposable launcher/carry case equipped with a 2.5X telescopic sight that is compatible with current and future night vision devices. The shoulder launched missile will consist of a two stage, soft launch propulsion system with inertial guidance and an explosively formed penetrator with follow-through grenade warhead. The missile will be capable of being fired quickly from its carrying configuration and safely fired from enclosures.

Weight: Less than 20 lb
Range: 17 – 500 m (target dependent)
Crew: 1
Lethality: Capable of defeating modern light armor, and incapacitating personnel in bunkers reinforced concrete/brick buildings.

FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: The U.S. Army MPIM/SRAW Technology Demonstration contract was awarded in December 1994 and scheduled for completion in May 1996. The USMC Predator program, a 42 month Engineering and Manufacturing Development (EMD) contract was awarded in June 1994. Both weapon systems share the same launcher and flight module.

PROJECTED ACTIVITIES: Technology Demonstration flight tests: 2Q-3QFY96.
Milestone II is scheduled for 3QFY96.
EMD award is scheduled for 3QFY96.

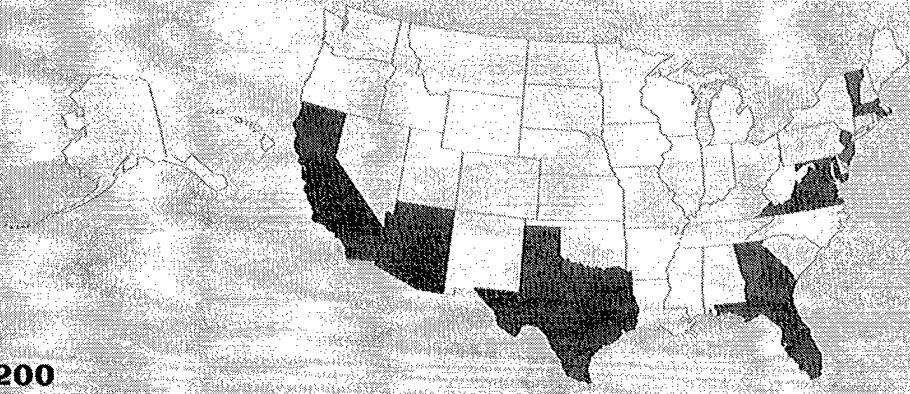
PRIME CONTRACTOR: Loral (Loral Aeronutronics) (Rancho Santa Margarita, CA)

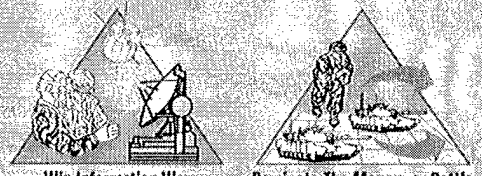
* See appendix for list of subcontractors.

Aviator's Night Imaging System

Mini Eyesafe Laser Infrared Observation Set

Night Vision Goggle and Infra Red Aiming Light





MISSION: Night Vision (NV) Image Intensification (I2), Laser, Thermal and Multi Sensor technologies provide today's soldier with the capability to operate more effectively and safely by day or night and under degraded battlefield conditions.

CHARACTERISTICS: The **AN/AVS-6 Aviator's Night Vision Imaging System (ANVIS)** is a lightweight, helmet-mounted, self-contained system. The ANVIS provides image intensification for helicopter crew members to conduct night missions under minimal ambient light conditions. It is powered using existing aircraft power or a helmet-mounted battery pack. Planned enhancements include: 25 mm eye relief eyepieces with improved collimation, independent interpupillary (eyespan) adjustments and increased reliability. The **AN/AVS-7 Aviator's Night Vision Imaging System Heads-Up Display (ANVIS/HUD)** is designed to provide aviators with critical flight information superimposed on the outside visual scan image of the ANVIS. The system is electro-optical and provides both the pilot and copilot critical, real-time, high-resolution flight and navigational information. Its primary purpose is to enhance flight safety, ease the crew workload and heighten the crew members' situational awareness outside the cockpit. Future enhancement with a Flight Data Recorder is planned. The **AN/PVS-7B Night-Vision Goggle** is a lightweight, binocular goggle used by individual soldiers. The AN/PVS-7B uses a single passive third-generation image intensifier tube. It is distributed and used in combat, combat support and combat service support operations. Ancillary items include an antifogging device, carrying case, shipping/storage case, a sacrificial filter, protective eyecup and lens cover, compass and magnifying lens. The **AN/PVS-10 Sniper Day/Night Sight (SD/NS)** is an integrated day/night sight for the M24 sniper rifle. The SD/NS provides the sniper the capability to acquire and engage targets during low and high ambient light conditions. The system utilizes third-generation I2 technology, mounts on the existing rail of the M24 and uses the same mil-dot reticle as the existing Leupold day scope. The magnification for day and night operation is 8.5X, and the system's maximum weight is 4.75 pounds. **The Lightweight Video Reconnaissance System (LVRS)** consists of a manportable Out Station and a vehicle mounted Base Station. The Out Station is used by surveillance or reconnaissance teams to capture, compress and transmit still frame images over military radios to the Base Station located at a higher echelon. The **Lightweight Laser Designator/Rangefinder (LLDR)** is an integrated manportable designator/rangefinder with day/night capability. It will replace older and heavier vehicle mounted systems and eliminate the need for separate systems performing the same target designation and rangefinding tasks. The **AN/PVS-6, Mini Eyesafe Laser Infrared Observation Set, (MELIOS)** is a manportable, eyesafe laser rangefinder that accurately measures and displays range data to selected targets. A Compass/Vertical Angle Measurement (C/VAM) capability may be added to MELIOS.

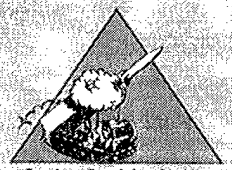
FOREIGN COUNTERPART: I2, Laser, and Thermal devices are produced in many countries.

PROGRAM STATUS: Two multiyear contracts are in place (FY93-97) for AN/AVS-6, AN/PVS-7B, and associated spare parts. ANVIS/HUD production deliveries began in FY95.

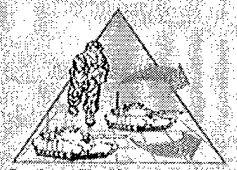
PROJECTED ACTIVITIES: FY96 single award of a two year multi-year contract for AN/AVS-6, AN/PVS-7B, Monocular Night Vision Device (MNVD) and tubes. (The MNVD is a lightweight GEN III night vision device for use by small unit leaders in observation and command and control. It can be mounted to small arms rail using a TWS rail grabber.

PRIME CONTRACTOR: ITT (Roanoke, VA)
AEL Defense (Alpharetta, GA)
Litton Industries (Garland, TX; Tempe, AZ; Orlando, FL)

* See appendix for list of subcontractors.



Conduct Precision Strikes



Dominate The Maneuver Battle

MISSION: The Paladin provides the primary indirect fire support to heavy divisions and armored cavalry regiments.

CHARACTERISTICS: Like the earlier M109 models, the Paladin is a fully tracked, armored vehicle with a 155 mm howitzer. The Paladin includes an onboard ballistic computer and navigation system, secure radio communications, an improved cannon and gun mount, automatic gun positioning, automotive improvements, improved ballistic and nuclear-biological-chemical protection, driver's night vision capability, and built-in test equipment. The Paladin has improved responsiveness, survivability, lethality, and reliability compared to the earlier M109s.

Range:	30 km (with rocket-assisted projectile) 24 km (with unassisted projectile)
Rate of fire	
Maximum:	4 rd/min for 3 min
Sustained:	1 rd/min
Main armament:	M284 155 mm cannon
Secondary armament:	.50 caliber machine gun
Weight:	32 ton (combat loaded)

FOREIGN COUNTERPART:

United Kingdom:	AS90
France:	155 GCT
Germany:	PzH 2000
Israel:	Slammer

PROGRAM STATUS: Low-rate production began in September 1991 and achieved a First Unit Equipped in April 1993. A full-rate production contract was awarded in April 1993. The Army will acquire 824 Paladins as a product improvement of the current M109A2/A3 howitzer. The balance of the M109 howitzer fleet will receive the M109A5 upgrade, which includes some automotive and crew nuclear-biological-chemical protection improvements and Paladin's M284 cannon.

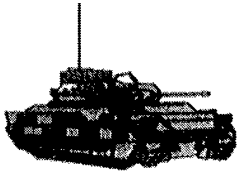
PROJECTED ACTIVITIES: Production will continue during 1996.

PRIME CONTRACTOR: FMC Corp. (United Defense, LP) (Chambersburg, PA; York, PA)—Full-Rate Production

* See appendix for list of subcontractors.

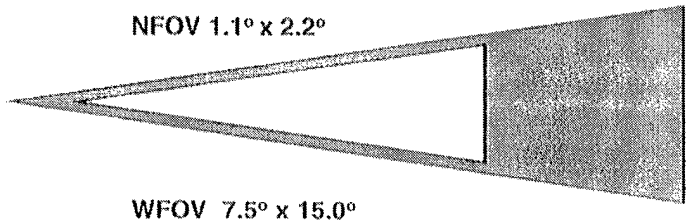
Battlefield View

1st Generation



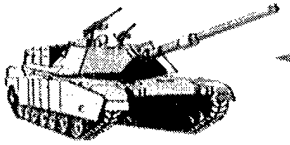
WFOV 3.4° x 6.8°

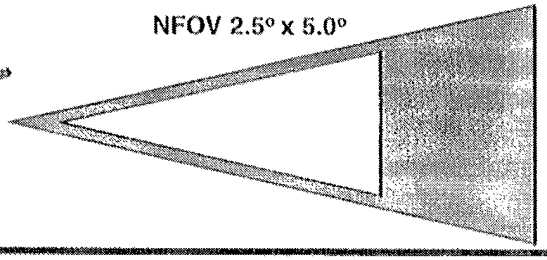
NFOV 1.1° x 2.2°



WFOV 7.5° x 15.0°

NFOV 2.5° x 5.0°

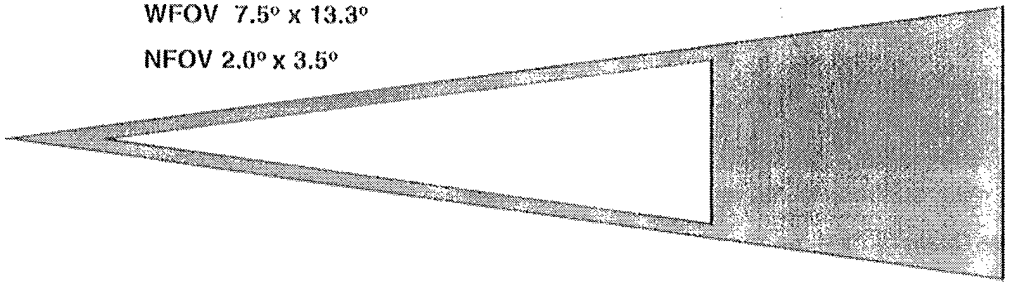


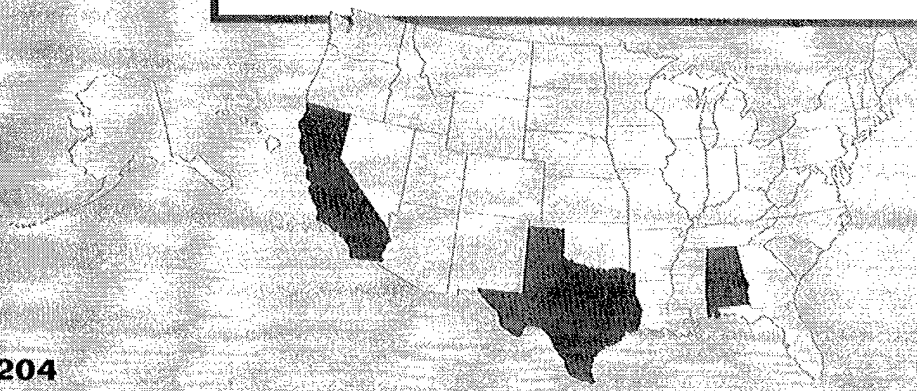


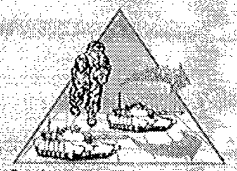
2nd Generation

WFOV 7.5° x 13.3°

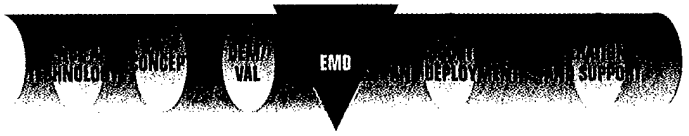
NFOV 2.0° x 3.5°







Dominate The Maneuver Battle



MISSION: To provide the Combat Arms Team (M1A2, M2A3, M-8, AGS, LRAS3) with a leap ahead target acquisition capability during all atmospheric and obscurant conditions. This will enable them to "see the same battlespace;" and to develop and produce a "common suite of sensor" FLIR which will maximize economics of scale during production and minimize life cycle costs.

CHARACTERISTICS: Second Generation Forward Looking Infrared (2nd Gen FLIR) Horizontal Technology Integration (HTI) program. One of the Army's key objectives in its quest to "Own The Night" is the Horizontal Technology Integration of Second-Generation FLIR technology in a number of new and existing platforms.

The concept is elegant in its simplicity. By using a common thermal sensor known as a B Kit that can be integrated into any candidate platform, the user community will be able to "see the same battlespace" and have a broad overmatch to potential adversary capabilities. The linkage between the B Kit will be system specific platform links called A Kits.

The program, which entered engineering and manufacturing development in July 1994, will ultimately equip five candidate platforms selected by Army leadership for initial integration. The present candidate platforms for the 2nd Gen FLIR are: M1A2 gunner's primary sight, M8 gunner's primary sight, M1A2 commander's independent thermal viewer, M2A3 improved Bradley acquisition system and commander's independent viewer, and the Long-Range Advanced Scout Surveillance system (LRAS3).

The present system concept will allow adaptation of this common sensor to any new platform application desired by Army leadership. In addition, this system will provide a battlespace observation edge for U.S. forces well into the next century.

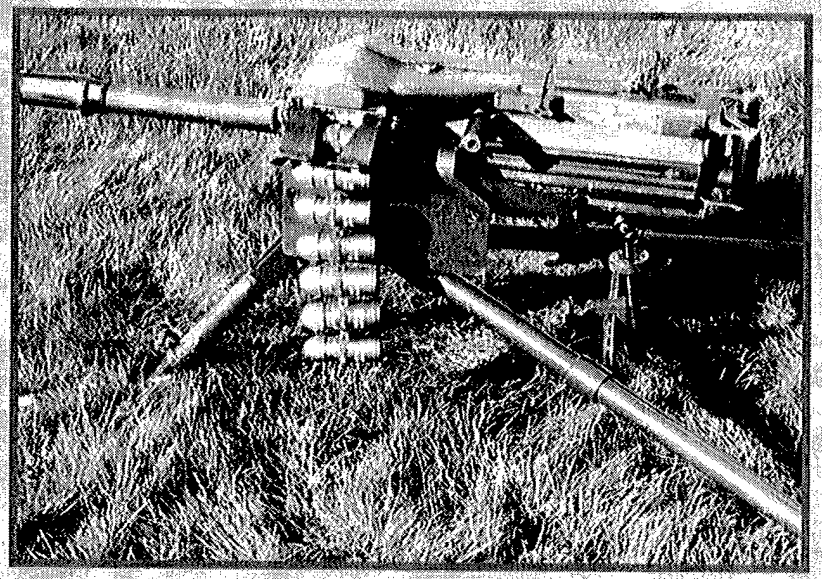
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: A cost plus award fee, Engineering and Manufacturing Development contract for the HTI SGF was awarded 7 July 1994

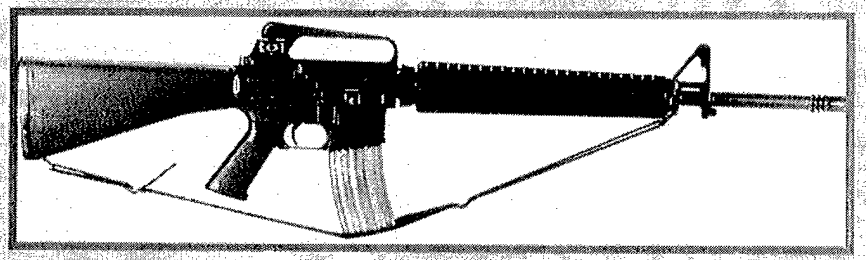
PROJECTED ACTIVITIES: M1A2 and M2A3 Sight testing start—3QFY96
M1A2 and M2A3 Vehicle start—4QFY96

PRIME CONTRACTOR: Texas Instruments (McKinney, TX)

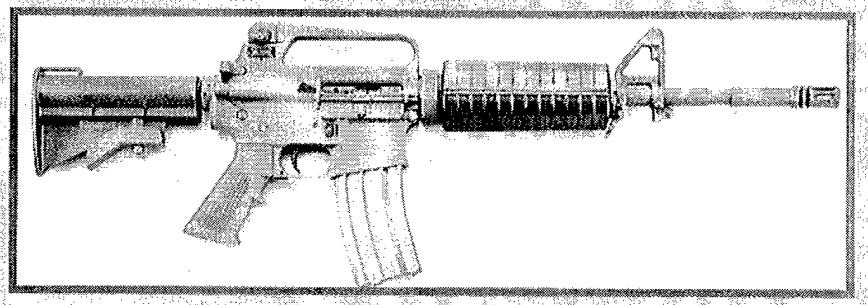
* See appendix for list of subcontractors.



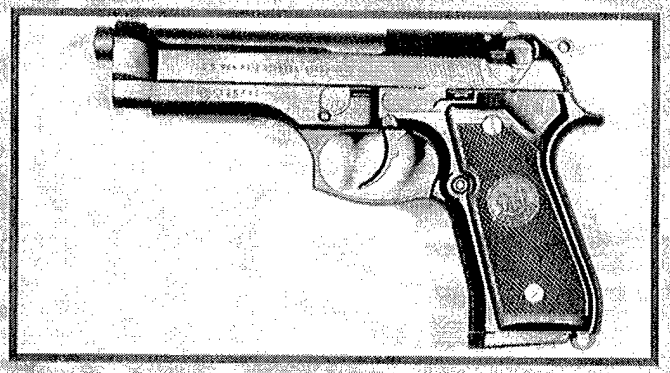
MK 19-3 40mm Automatic Grenade Launcher



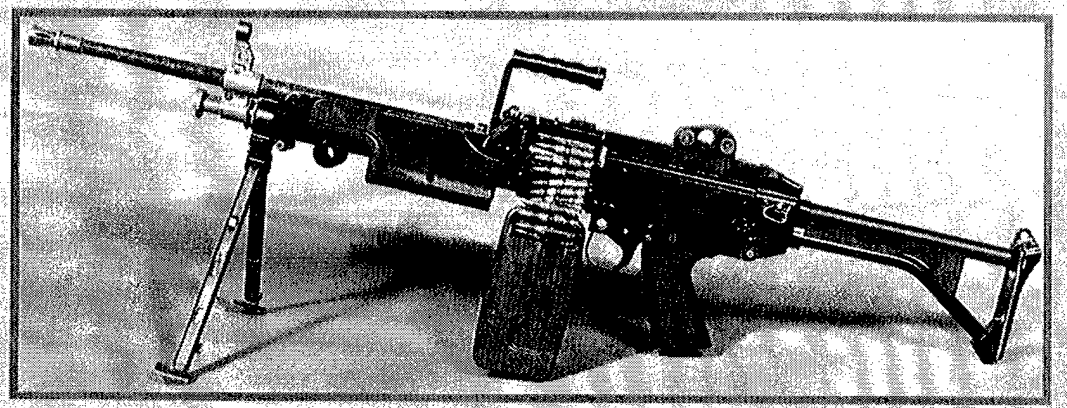
M16A2 Rifle



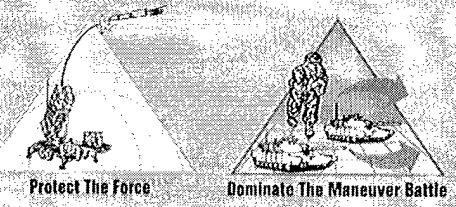
M4 Carbine



M9 Personal Defense Weapon



M249 Squad Automatic Weapon (SAW)



MISSION: The Small Arms provide direct fire for individuals and small units.

CHARACTERISTICS:

M9 Personal Defense Weapon: A semiautomatic, double-action pistol, the M9 is more lethal, lighter, and safer than its predecessors. The M9 is carried by crew-served weapon crewmen, law enforcement personnel, aviators and by others who have a personal defense requirement. It replaces the M1911A1 .45 caliber pistol and the .38 caliber revolver.

M4 Carbine: The M4 is a more compact version of the M16A2 rifle with a collapsible stock. It provides the individual soldier operating in close quarters the capability to engage targets at extended range with accurate, lethal fire. It achieves over 85% commonality with the M16A2 Rifle and will replace all .45 caliber M3 submachine guns and selected M9 pistols and M16 series rifles.

M16A2 Rifle: The M16A2 is a lightweight, air-cooled, gas-operated, low-impulse rifle. An improved version of the M16A1 it is replacing, the M16A2 incorporates improvements in sight, pistol grip, stock, and overall combat effectiveness. Accuracy is improved by incorporating an improved muzzle compensator, three-round burst control, and a heavier barrel, and by using the heavier NATO standard ammunition, which is also fired by the Squad Automatic Weapon.

M249 Squad Automatic Weapon (SAW): The M249 is a lightweight, gas-operated, one-man-portable automatic weapon capable of delivering a large volume of effective fire at ranges up to 800 meters. The basis of issue is one per soldier designated to fire in the automatic rifle role in all types of units. It is scheduled to replace the M60 7.62 mm medium machine gun in certain units.

MK19-3 40 mm Automatic Grenade Launcher: A self-powered, air-cooled, belt-fed, blowback operated weapon, the MK19-3 is designed to deliver accurate, intense, and decisive firepower against enemy personnel and lightly armored vehicles. It is scheduled to replace selected M2 Heavy machine guns in selected units and will be the primary suppressive weapon for combat support and combat service support units. The MK19-3 is mounted on the HMMWV, M113 FOV, 5-ton trucks, and selected M88A1 recovery vehicles.

	M9	M4	M16A2	M249	MK 19-3
Caliber:	9 mm	5.56 mm	5.56 mm	5.56 mm	40 mm
Weight:	2.6 lb	5.65 lb	8.9 lb	16.3 lb	72.5 lb
Max effective range:	50m	500m	550m	800m	2,200 m (area target)

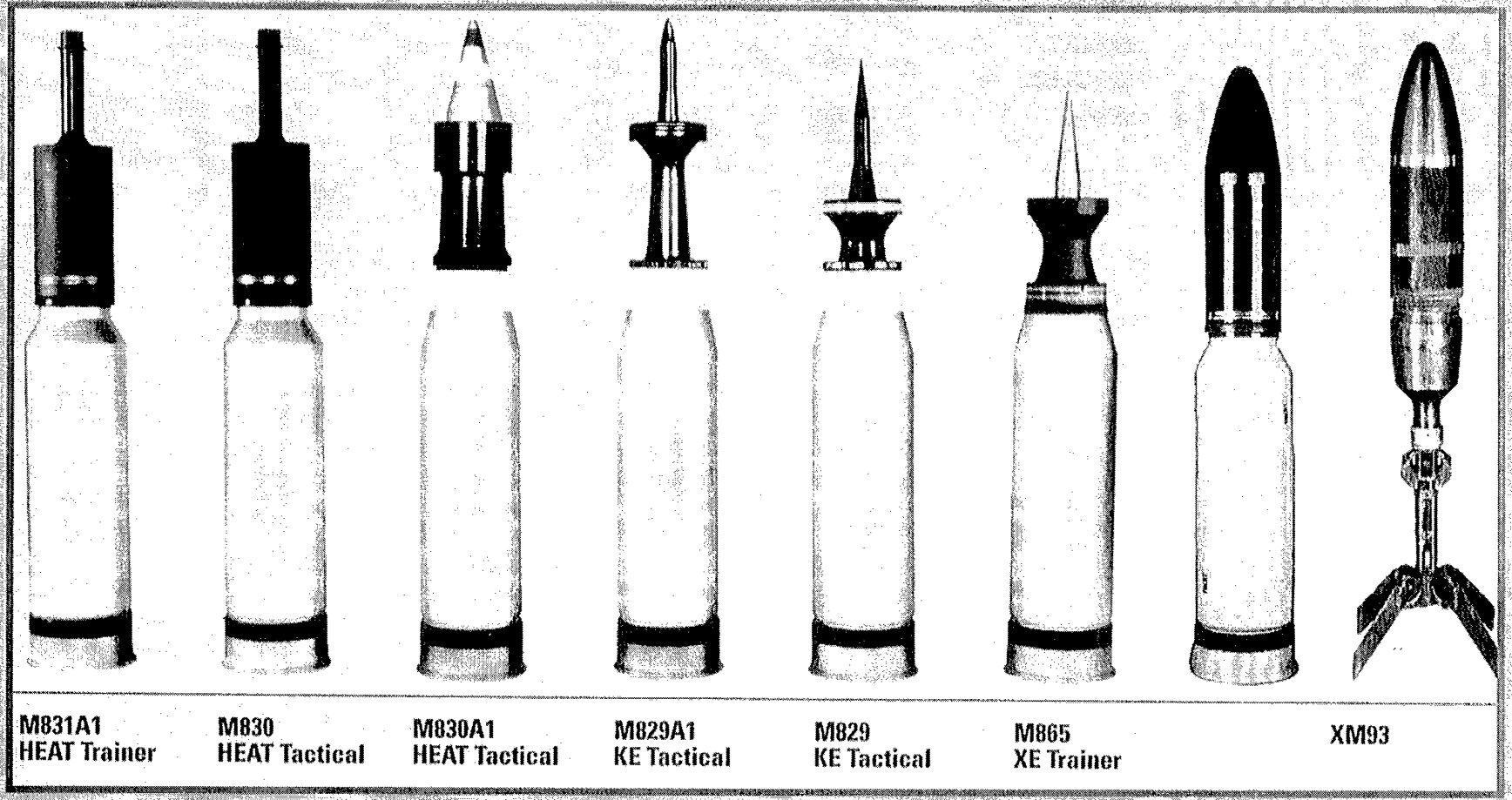
PROGRAM STATUS: All are currently in series production and fielding.

PRIME CONTRACTORS:

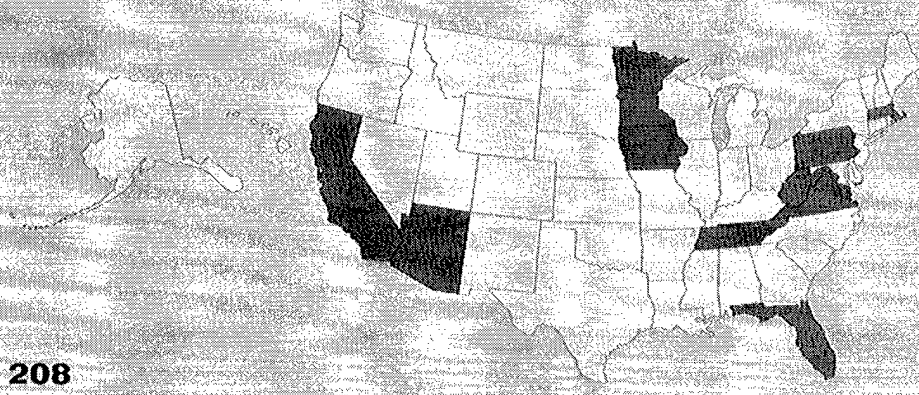
Beretta USA (Accokeek, MD)—M9 Personal Defense Weapon
Colt's Manufacturing (Hartford, CT)—M4 Carbine, M16A2 Rifle
FN Manufacturing (Columbia, SC)—M16A2 Rifle, M249 Squad Automatic Weapon
Dechossois Industries (Saco Defense) (Saco, ME)—MK19-3 Automatic Grenade Launcher

* See appendix for list of subcontractors.

Rounds Type Classified for U.S. Army



M831A1 HEAT Trainer	M830 HEAT Tactical	M830A1 HEAT Tactical	M829A1 KE Tactical	M829 KE Tactical	M865 XE Trainer	XM93



Dominate The Maneuver Battle

MISSION: The 120 mm family of tank ammunition is fired from the M256 cannon on the M1A1/M1A2 tank. There are four basic cartridge types: Kinetic Energy (KE), Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer (APFSDS-T); Multi-purpose Anti-Tank (MPAT); an APFSDS-T Training Cartridge (M865); and an HE-MP-T Training Cartridge (M831).

CHARACTERISTICS: **APFSDS-T:** One-piece depleted uranium penetrator, combustible cartridge case, discarding sabot—JA2 propellant—M829, M829A1, M829A2.

MPAT: Shaped charge warhead, combustible cartridge case—JA2 propellant—M830. Saboted projectile with manually selectable air/ground switch with RF proximity sensor for anti-helicopter—M830A1.

STAFF: Smart Target Activated Fire-and-Forget (XM943) munition with explosively formed penetrator (EFP) for top attack defeat of armor targets in defilade.

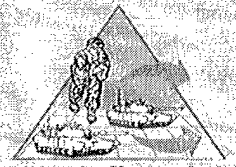
FOREIGN COUNTERPART: NATO tanks employ similar types of KE ammunition, however, the MPAT and the STAFF have no similar counterparts fielded in the world. Russian-designed tanks fire KE, high explosive fragmentation ammunition, and anti-tank guided missiles.

PROGRAM STATUS: The basic 120 mm ammunition was fielded with the M1A1 Tank. The Armament Enhancement Initiative (AEI) program provides ammunition required to defeat future threat targets. The M829A2, APFSDS-T and M830A1, MPAT are in production. The XM943, STAFF cartridge is in the Engineering and Manufacturing Development phase. A sole source multi-year contract for the M829A2 was awarded in FY95. Multi-year contracts, with split awards, were also awarded in FY95 for both training cartridges. Production of the M830A1 cartridge will continue during FY95.

PROJECTED ACTIVITIES: Continued production through FY96.

PRIME CONTRACTOR: Alliant TechSystems (Brooklyn Park, MN)—M830A1, M831A1, M865
Olin Corp. (St. Petersburg, FL)—M829A2, M831A1, M865

* See appendix for list of subcontractors.



Dominate The Maneuver Battle

MISSION: The Thermal Weapon Sight (TWS) provides surveillance and fire control capability for individual and crew served weapons during daylight, darkness, and degraded battlefield conditions.

CHARACTERISTICS: The Thermal Weapon Sight (AN/PAS-13) family will replace the image intensifier night sights currently in use for small arms. The thermal image of TWS can see through total darkness, smoke, blowing dust, and adverse weather. TWS recently completed Development and Operational Tests, exceeding Army requirements. The TWS is a second generation Forward Looking Infrared (FLIR), is digital battlefield compatible, and provides a standard video output for training, image transfer, or remote viewing. The TWS allows the soldier to see deep into his battlefield, increases surveillance and target acquisition range, and penetrates obscurants. The P3I TWS will incorporate a rangefinder, compass, vertical angle, cant measurement, and aimpoint adjustment for ballistic solution.

	Range (in meters)	Weight (in pounds)	Field of View (in degrees)	Weapons Supported
Light Wpns TWS	550	4.3	15	M16, M4, M203, M136
Medium Wpns TWS	1100	4.5	9 & 15	above plus M249, M60
Heavy Wpns TWS	2200	5.0	3 & 9	M2, MK19, M24

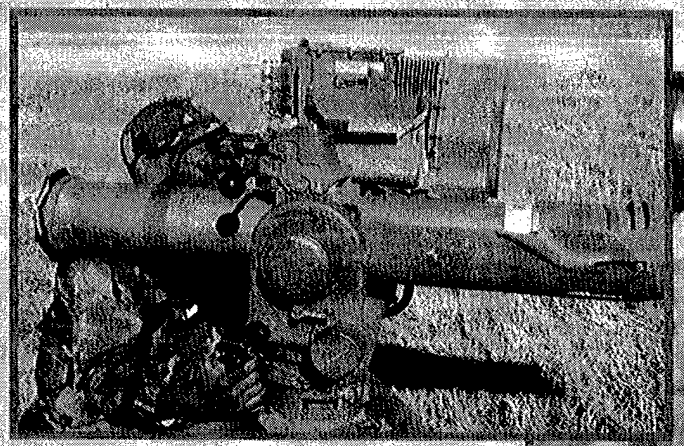
FOREIGN COUNTERPART: No known foreign counterpart.

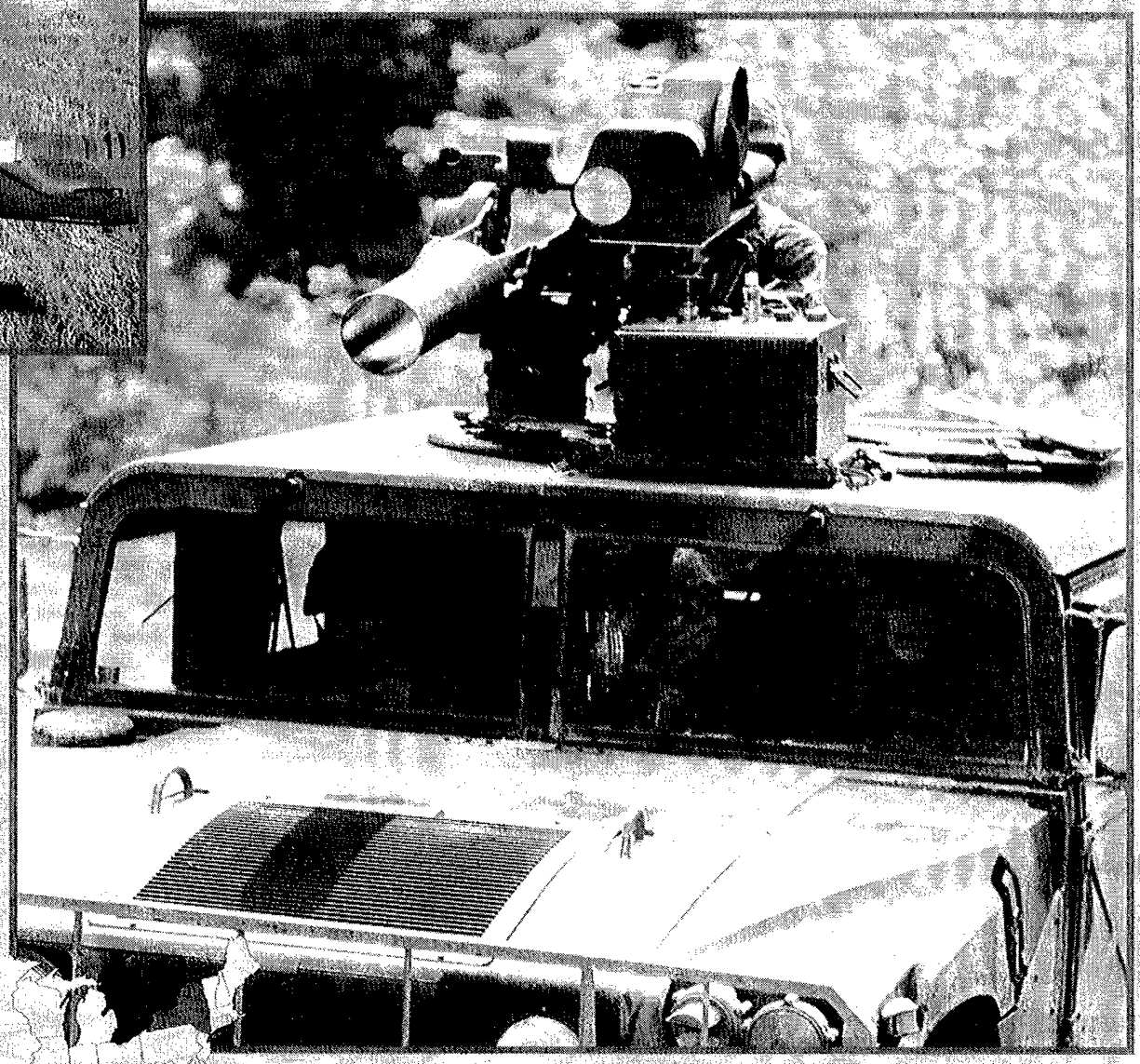
PROGRAM STATUS: Currently in low rate production. Type Classification Standard in 2QFY97.

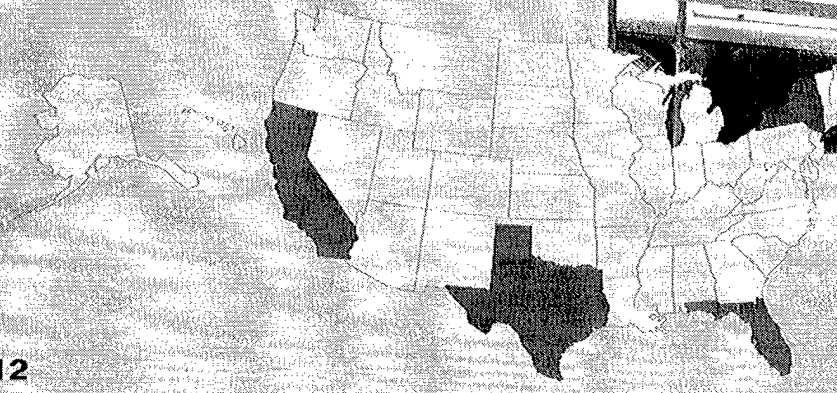
PROJECTED ACTIVITIES: Initial fielding scheduled for 4QFY96.

PRIME CONTRACTOR: General Motors Corp. (Hughes Aircraft Company) (El Segundo, CA)

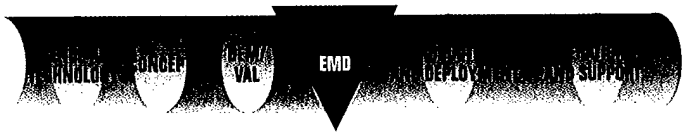
* See appendix for list of subcontractors.







Dominate The Maneuver Battle



MISSION: The Improved Target Acquisition System is a material change to the current Ground TOW 2 Weapon System for first to deploy light forces. ITAS will increase target acquisition ranges while retaining the ability to fire all configurations of the TOW missiles allowing room for growth for followon missiles.

CHARACTERISTICS: The ITAS will be fielded at Battalion level replacing TOW 2 in light infantry units. The ITAS modification kit consists of an integrated (Day/Night Sight with Laser Rangefinder) Target Acquisition Subsystem (TAS), Fire Control Subsystem (FCS) Battery Power Source (BPS) and modified Traversing Unit (TU). The ITAS will operate from the High Mobility Multi-purposeWheeledVehicle (HMMWV) and associated dismount platforms.

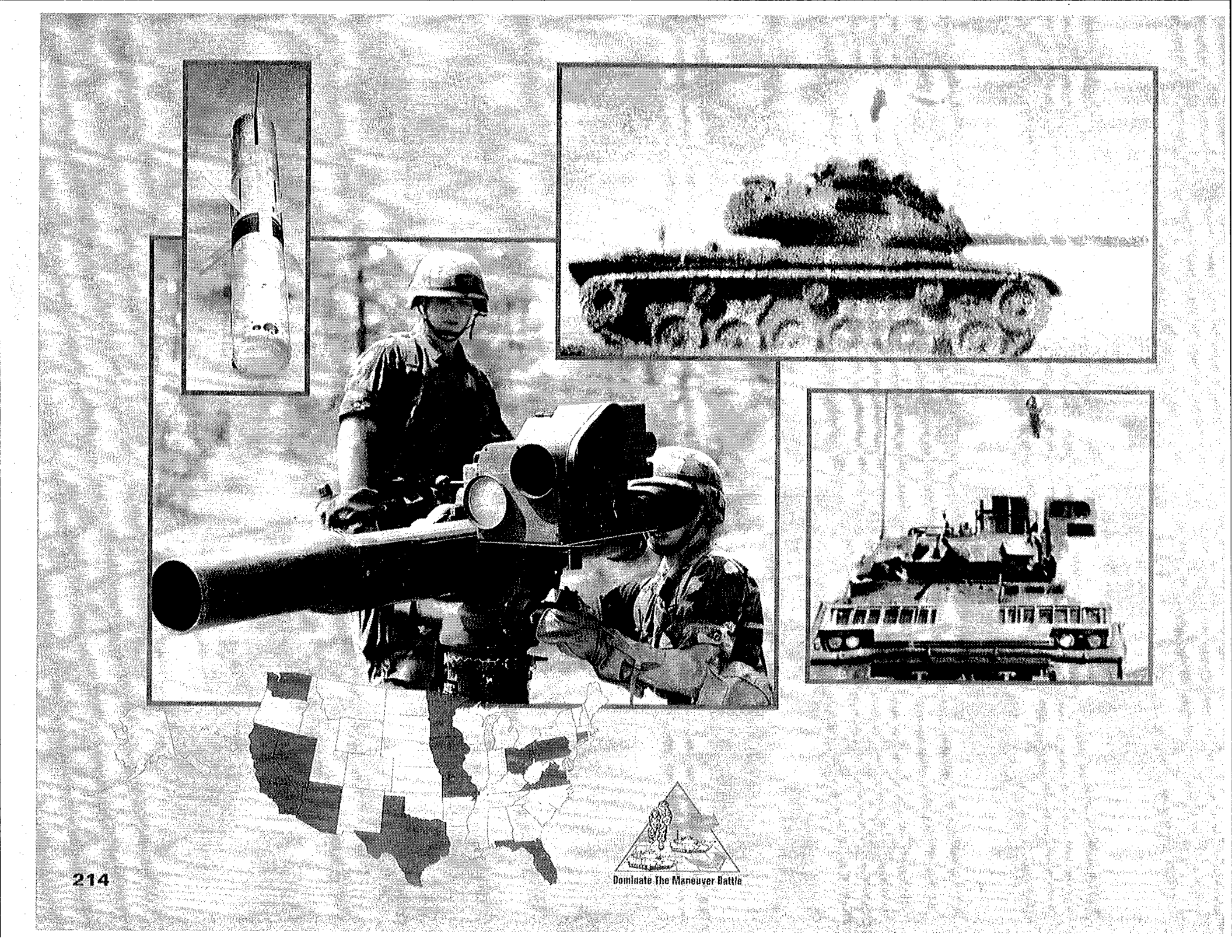
FOREIGN COUNTERPART: No known foreign counterpart.

PROGRAM STATUS: Presently in a 40 month Engineering and Manufacturing Development Program. The ITAS has completed Pre-ProductionTesting and Limited User Testing.

PROJECTED ACTIVITIES: Pre-Production Qualification Testing (FY96), Initial Operational Testing and Evaluation Testing (FY96), and prepare for Low Rate Initial Production (FY96).

PRIME CONTRACTOR: Texas Instruments (McKinney, TX).

* See appendix for list of subcontractors.



Dominate The Maneuver Battle

MISSION: The TOW (Tube-Launched, Optically Tracked Wire Command-Link Guided) missile is a long-range, heavy anti-tank system designed to attack and defeat armored vehicles and other targets, such as field fortifications.

CHARACTERISTICS: The TOW is found at battalion level and is mounted on the Bradley Fighting Vehicle System (BFVS), the Improved TOW Vehicle (ITV), the High Mobility Multi purpose Wheeled Vehicle (HMMWV), and the AH-1S Cobra Helicopter. The system consists of a tripod, traversing unit, missile guidance set, launch tube, optical sight, battery assembly, and any of the five missile variations. The system also includes a thermal sight that provides a capability for operations at night, in reduced visibility, and in a countermeasure environment. The missiles are all-up rounds encased in a disposable container.

	TOW 2A Missile	TOW 2B Missile
Missile weight	49.9 lb	50.5 lb
Missile length	46.1 in	46.1 in
Reliability:	96%	98%
Min range:	65 m	200 m
Max range:	3.750 m	3.750 m

FOREIGN COUNTERPART:

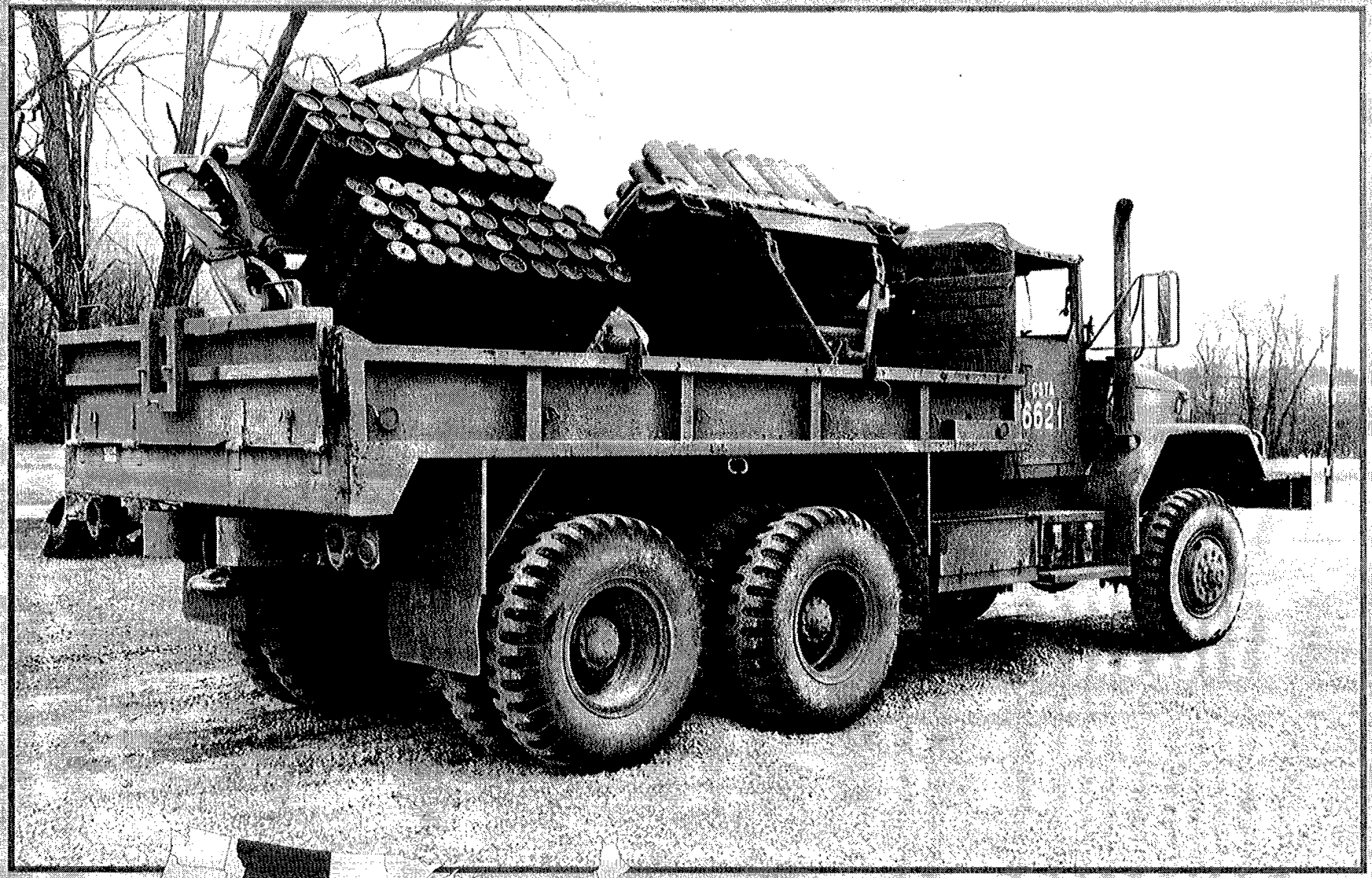
Sweden	BOFORS BILL
Russia	AT-4/5/6
France/Germany	HOT 2
France/Germany/United Kingdom	MILAN 2

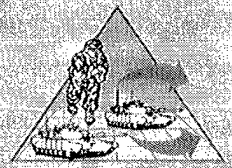
PROGRAM STATUS: The TOW Weapon System entered its Production and Deployment phase with the Basic TOW in 1970. Since that time, there have been five variations of the missile and two variations of the TOW subsystem. The TOW 2B replaced the TOW 2A as the standard production missile in 2QFY92 and will join the more than 100,000 missiles and 14,000 platforms already in the field. The TOW is currently in use by more than 40 other nations as their primary heavy anti-armor weapon system.

PROJECTED ACTIVITIES: Continue TOW 2B missile production to complete Army buys, TOW 2A and 2B Foreign Military Sales.

PRIME CONTRACTOR: General Motors Corp. (Hughes Electronics) (Tucson, AZ; Goleta, GA)

* See appendix for list of subcontractors.





Dominate The Maneuver Battle

MISSION: The Volcano system is a rapidly deployed mine system that can be delivered from a UH-60 helicopter and a host of ground vehicles. The system can be employed offensively and defensively to delay enemy movement, isolate the battlefield and reinforce friendly fires.

CHARACTERISTICS: The delivery system consists of a dispenser control unit, one to four launcher racks and unique mounting hardware. Each launcher rack is capable of holding 40 mine canisters with a 5:1 mix of anti-tank and anti-personnel mines. The air system is capable of deploying 960 mines in less than 30 seconds.

FOREIGN COUNTERPARTS:

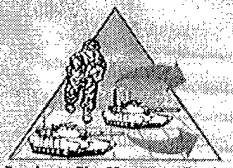
Germany:	Skorpion
France:	Minotaur
Italy:	Istrice
U.K.:	VLSMS

PROGRAM STATUS: The 5-ton truck delivery system was type classified in January 1989, the M548A1 version was type classified in October 1991 and the air version was type classified in June 1991. Troop NET of the 5-ton and the M548A1 are ongoing and troop NET of the air system started 4QFY95. A new improved anti-tank mine (MSEP) was included in the FY94 mine buy. The last Volcano production buy occurred in FY95.

PROJECTED ACTIVITIES: Deliveries of the improved M89A1 canisters will begin October 1996 and continue through June 1997.
Deliveries of the M548 mounted Dispenses will occur between August 1996 and July 1997.
Deliveries of the Air system will be completed by March 1997.
Deliveries of the 5-ton Truck Dispenses will be completed by July 1997.

PRIME CONTRACTOR: Intellitech (Deland, FL)
Alliant Techsystems (Edina, MN)

* See appendix for list of subcontractors.



Dominate The Maneuver Battle

MISSION: The Wolverine (Heavy Assault Bridge) provides assault bridging support for forward, heavy-maneuver forces.

CHARACTERISTICS: The Wolverine launcher is mounted on an M1 Abrams chassis and is operated by a two-man crew. The bridge is 26 m long and can span gaps up to 24 m. It will support an MLC 70 loading crossing at 16 kph. The bridge is launched from under armor in 5 minutes and retrieved in 10 minutes.

The Wolverine will increase maneuver force mobility by allowing units to transit such gaps as tank ditches, road craters, and partially damaged bridge sections. The current Armored Vehicle Launched Bridge (AVLB) cannot support Abrams tank units.

FOREIGN COUNTERPART:

Russia:	MTU-20; MTU-72
China:	Type 84
Slovakia:	MT-55
France:	AMX (AVLB)
Germany:	BLG-60; Biber
United Kingdom:	Chieftain
South Korea:	K-1

PROGRAM STATUS: The program was restarted in FY92 as a result of lessons reinforced during Operation Desert Storm. It is currently in Engineering and Manufacturing Development (EMD). The contract for Phase II of EMD was awarded in January 1994. Phase II includes the design, fabrication, and integration of the HAB system onto the M1 Abrams chassis. Full-up system testing will begin 3QFY96. A contract for Low-Rate Initial Production is planned for 3QFY97.

PROJECTED ACTIVITIES: Prototype delivery is planned for 2QFY96 for government testing.

PRIME CONTRACTOR: General Dynamics (Land Systems Division) (Sterling Heights, MI)

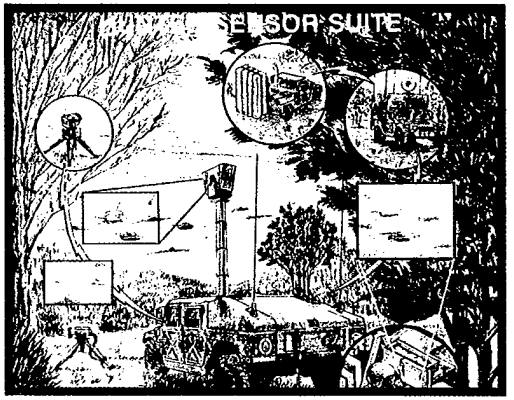
* See appendix for list of subcontractors.

RAPID FORCE PROJECTION INITIATIVE (RFPI) ACTD:

Rapid Force Projection Initiative (RFPI) Advanced Concept Technology Demonstration (ACTD). The RFPI ACTD will provide early entry forces with advanced technologies and systems to make them more survivable when encountering a heavy force. The purpose of RFPI is to address the operational capability requirements, developed by TRADOC, for lethality and survivability of early entry forces while maintaining the inherent strategic deployability of these forces. RFPI is based on a "system of systems" concept of hunters and standoff killers and will demonstrate technology solutions which greatly expand the battlespace of early entry forces. The operational capability enhancements offered by RFPI will enable the force commander to mass precision fires with lightweight weapons on threat forces, including armor, at ranges beyond which they can respond. This capability will greatly increase the survivability of early entry forces. The expansion of the early entry force battlespace is accomplished through the employment of a suite of sensors (hunters) which will detect and track threat forces before they can engage the friendly force. The hunters will provide near-real-time digital information through an Automated Fire Support Element, a Tactical Operations Center element, which will match the target with an appropriate weapon system (standoff killer). This near-real-time capability to pair targets with weapons dramatically reduces sensor-to-shooter timelines and provides the commander with the ability to synchronize massed fires on enemy forces. Ground and aerial hunter systems are equipped with advanced sensor packages capable of detecting targets well forward of friendly forces. Near-real-time target information is relayed from the hunters through a battlefield computer network to the standoff killers. These standoff systems are designed to engage and kill enemy armor forces with long-range precision munitions. RFPI consists of three components: simulation, integrated demonstration, and a number of individual ATDs and Technology Demonstrations (TDs). RFPI will integrate simulation and the technologies produced by individual ATDs/TDs into an integrated demonstration in full coordination with TRADOC, Battle Labs, and other users. Simulation activities will identify the combat worth of each ATD/TD through evaluations performed in the context of the performance of existing fielded and evolving systems in simulated rapid deployment scenarios. Through the integration of field demonstrations including distributed interactive simulation connectivity, ATDs/TDs will be scrutinized at a level heretofore not possible. The RFPI ACTD builds on a subset of these demonstrations to provide a large scale field exercise in FY97 showcasing the capabilities of the Enhanced Fiber Optic Guided Missile (EFOG-M) linked to forward sensors, plus the High Mobility Artillery Rocket System (HIMARS) and advanced, more responsive fire control for howitzers. A selected light, air assault, or airborne unit from Forces Command (FORSCOM) will demonstrate the RFPI ACTD concept. The participating unit will retain selected equipment for at least a two year extended demonstration period to provide residual capabilities and allow arrangements for long-term retention. The RFPI ACTD is a tool for the supporting user elements to explore emerging warfighting concepts and doctrine through planning, conduct of, and participation in a large scale field experiment. The ACTD provides an opportunity for extensive user interaction with the new RFPI hunter-standoff killer concept and its emerging technologies, while encouraging user exploration of a variety of excursions to the baseline procedures. The enhancements to the operational capability requirements of early entry force provided by RFPI technologies will significantly reduce threat combat power prior to the occurrence of the direct fire battle. The capability to overmatch any threat force with highly deployable forces is essential for the success of a force projection Army. RFPI "Hunter" Advanced Technology Demonstrations

This ATD will develop and demonstrate advanced long range sensor suite technology on a hunter/scout vehicle to provide mul-

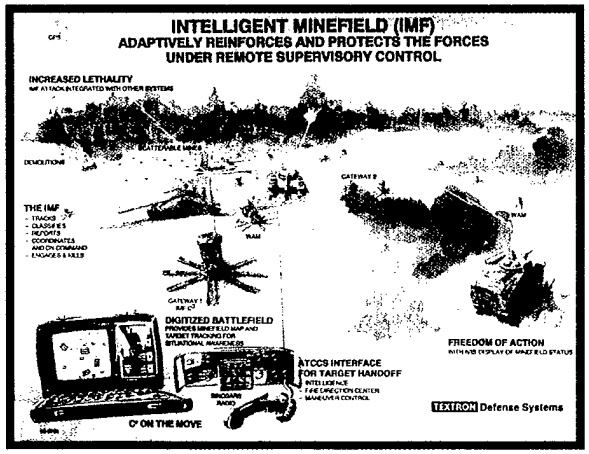
HUNTER SENSOR SUITE ATD (94 – 97): This ATD will develop and demonstrate advanced long range sensor suite technology on a hunter/scout vehicle to provide multiple target acquisition capabilities with enhanced target hand-off timelines to standoff killers. This will provide the mounted scout with long range target acquisition and detection using second generation FLIRs and acoustic sensors. Pacing technologies include second generation focal plane arrays, advanced signal processing hardware, image compression/transfer techniques, ground-based aided target recognition/tracking algorithms, acoustic sensors, and reduced signature optics. The Hunter Sensor Suite will be integrated with a hunter vehicle for use in the RFPI Integrated Demonstration. Additionally, the ATD will provide a sensor for the dismounted scout which couples into the hunter network and a driver's thermal viewer for enhanced (day/night) vehicle mobility. Supports: Light forces.



REMOTE SENTRY ATD (93 – 96): This ATD will develop and demonstrate technology for low cost, lightweight, autonomous, remote, wide area, ground-based surveillance and target acquisition during day, night, and limited visibility conditions for early entry forces. This will be accomplished through both imaging (FLIR and day TV) sensors and non-imaging (acoustic, magnetic, and seismic) sensors. These sensors will provide compressed target image hand-off to the scout vehicle over the SINCGARS secure link. Pacing technologies include uncooled FLIR, data compression/transfer techniques, low level processing, and power sources. Supports: Light forces. RFPI "Standoff Killer" Advanced Technology Demonstrations.

ENHANCED FIBER OPTIC GUIDED MISSILE (EFOG-M) ATD (94 – 98): This demonstration uses a fiber optically guided missile system that will provide a long range, precision anti-armor weapon. A human operator guides the missile by viewing an image transmitted through the fiber optic cable. This program capitalizes on technology developed under the Fiber Optic Guided Missile (FOG-M) program, with added night capability and precise self location via GPS to rapidly and accurately target specific targets. It is a candidate as the "Killer" half of a "Hunter/Killer" team concept. Supports: Light Forces.

INTELLIGENT MINEFIELD (IMF) ATD (93 – 97): This program demonstrates effective command and control of interactive minefields containing sensor arrays and smart anti-tank mines. In contrast to the traditional image of totally passive, distributed conventional mines, the last decade has seen the development of small, scatterable mines which can be delivered by air, ground, or artillery, and which are effective over the width of the entire vehicle. The IMF ATD will enhance and support standoff warfighting by providing a capability for mines to maintain a command and control link to standoff forces. The ATD focus is on optimized use of smart, wide area antitank mines by the early entry forces, providing "first to fight" forces with the ability to coordinate the action of individual mines, resulting in selective engagements (avoid multiple attacks on single targets) and advanced coordinated tactics (ambush, entrapment, filtration). The ATD will demonstrate a variety of minefield enhancements obtained through advanced sensors and digital communications to help the user determine which alternatives are cost effective for future systems. Additional capabilities will include control of large areas with minimum time, materiel, and personnel on site, and reusable smart mines to maximize available assets and reduce logistics burdens. Critical technologies include acoustic sensors, communications, signal processing, and data fusion. Supports: PM-MCD Dem Val program.



PRECISION GUIDED MORTAR MUNITION (PGMM) ATD (94 – 97):

The inherent light weight and high rate of fire of mortar systems offer excellent systems for light forces. The addition of smart munitions will provide an organic, indirect, hard point target capability previously unavailable to light forces. This demonstration will show the potential for such a system as part of an overall concept for improving capabilities of early deploying light forces against heavy armor. Supports: 81MM Merlin projectile, digital Mortar Fire Control System.

COMPOSITE ARMORED VEHICLE (CAV) ATD (94 – 97):

The primary goal of this ATD is demonstration of composite structures and integrated signature reduction techniques to lighten combat vehicles, thereby making them more deployable while maintaining high levels of survivability. Technical issues include producibility , non-destructive testing, reparability, and ballistic and structural integrity. The preliminary design has been established, leading to demonstrator fabrication next year. Supports: FMBT, FSV, LOSAT on AGS, and Crusader.

HIT AVOIDANCE ATD (95 – 98):

Anti-armor threats have increased to the extent that armor alone cannot provide all-around protection at acceptable vehicle weights. The hit avoidance program will demonstrate means by which threats can be detected (sensed) and defeated by countermeasures such as jammers, decoys, active protection, counterfire, movement or obscurants. Active protection implies physical degradation or damage of the threat munition before it hits its target. Supports: Crusader, AGS, and FMBT.

CREWMAN'S ASSOCIATE ATD (93 – 96):

The size of a vehicle crew has a great and direct impact on the size and weight of a combat vehicle. Therefore, the objective of this program is to demonstrate the feasibility of operating combat vehicles with smaller crews. This will be accomplished by introducing integrated and automated crew stations that feature advanced controls and displays, expert systems, and robotics to reduce crew workloads. In the case of a tank, two-, three- and four-soldier crews are being examined. Supports: FMBT, Crusader, AGS, and FSV.

TARGET ACQUISITION ATD (95 – 98):

The Target Acquisition ATD will demonstrate technology supporting the target acquisition/target identification capability of a future main battle tank. This ATD will demonstrate aided target acquisition and prioritization at extended ranges to allow reduced crew work loads and targeting timelines. The program will combine a sector-search second generation thermal sight, aided target recognition processor, global positioning system, cooperative target identification, multifunction laser radar, and MMW MTI Radar to reduce crew requirements and increase lethality and survivability. In addition, thermal driving technologies will provide increased on and off the road mobility. Supports: AGS Upgrades, RFPI, Abrams (MBT 1080), Bradley upgrades.

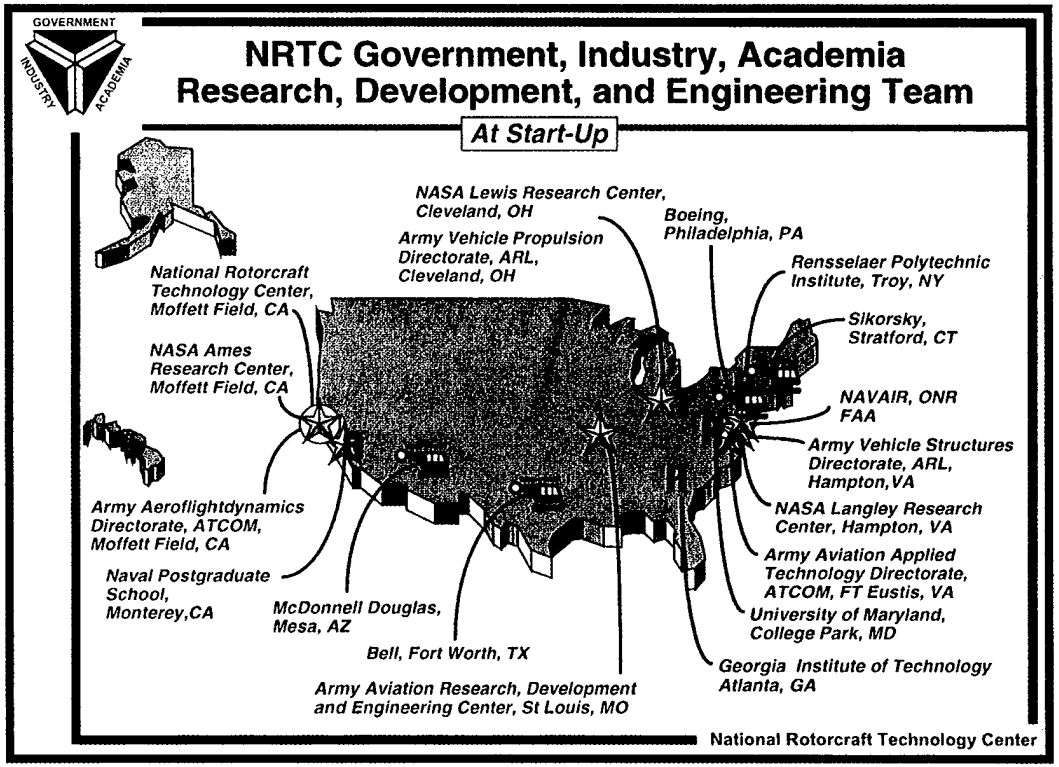
ROTORCRAFT PILOT'S ASSOCIATE (RPA) ATD PROGRAM (93 – 99):

The RPA ATD program objective is to establish revolutionary improvements in combat helicopter mission effectiveness through the application of artificial intelligence for cognitive decision aiding and integration of advanced pilotage sensors, target acquisition, armament, and fire control; communications, cockpit controls, and displays; navigation; survivability; and flight control technologies. The goal of the RPA ATD is to significantly increase the mission effectiveness of our combat aviation systems. Revolutionary mission equipment package technologies will be integrated with high speed data fusion processing and cognitive decision aiding expert systems to achieve maximum effectiveness and survivability for our combat helicopter forces. RPA will expand aviation's freedom of operation, improve response time for quick reaction and mission redirect events, increase the precision strike capability for high value, short dwell-time targets, and increase day/night, all weather operational capability. RPA will contribute greatly to the pilot's ability to "see and comprehend the battlefield" in all conditions; to rapidly collect, synthesize, and disseminate battlefield information; and to take immediate and effective actions. The RPA ATD will demonstrate the following quantitative MOPs beyond RAH-66 performance during 24-hour, all weather battlefield conditions: 30 to 60 percent reduction in mission losses, 50 to 150 percent increase in targets destroyed, and a 20 to 30 percent reduction in mission timelines. Supports: RAH-66 Comanche, AH-64 Apache Improvements, and dual use potential.

NATIONAL ROTOCRAFT TECHNOLOGY CENTER (NRTC):

The NRTC is a timely, low overhead, catalyst for facilitating collaborative rotocraft research and development between NASA, DoD/Army and Navy, FAA, Industry and academia. It will serve as the "modem" to cooperatively develop and implement a rotocraft technology plan and national strategy that can effectively address both civil and military rotocraft needs. The effort will establish an aggressive and clearly focused approach to strengthening the US rotocraft industry's ability to compete in the global market, creating new market opportunities for commercial rotocraft, and ensuring the continued supremacy of this technology so critical to modern warfare.

The NRTC adds an innovative approach to include US Industry and academia as partners through their focal point, the Rotocraft Industry Technology Association (RITA), a non-profit corporation formed for this purpose. The focus of this innovative partnership will be development of rotocraft design, engineering and manufacturing technologies and the sharing of the technology among RITA members. US industry will have a proactive role in defining the technology tasks to be undertaken. Initial strategic thrusts of the NRTC will address the following five critical path civil/military rotocraft issues: (a) Critical dual-use technologies, (b) Passenger and community (environmental/safety) acceptance, (c) Product & Process development, (d) Aviation infrastructure, and (e) Civil & Military Standards. Research project costs will be shared by government funding of $12 – 15M per year and will be matched or exceeded by industry's participation. The initial participating organizations in the NRTC are as follows: NASA, DoD/Army/Navy, FAA, Bell Helicopter, Boeing Helicopters Div., McDonnell Douglas Hel., Sikorsky Aircraft, Rensselaer Poly. Institute, U of Maryland, Georgia Tech and the Naval Post Graduate School. The Government office of the NRTC is located in existing facilities at Ames Research Center, Moffett Field, California and will have a small staff of seven people.



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Abrams Tank

Anniston Army Depot: Anniston, AL;
General Dynamics Corp.: (Land Systems Division) Lima, OH; (Land Systems Division) Scranton, PA; (Land Systems Division) Sterling Heights, MI; (Land Systems Division) Warren, MI;
General Motors Corp.: (Hughes Electronics) Los Angeles, CA;
GMC-Allison: Indianapolis, IN;
Rock Island Arsenal: Rock Island, IL;
Smith Industries: Grand Rapids, MI;
Texas Instruments Inc.: Dallas, TX;
Textron Inc.: (Cadillac Gage) Warren, MI; (Textron Lycoming) Stratford, CT;
U.S. Deptartment of Energy: Idaho Falls, ID;
Watervliet Arsenal: Watervliet, NY

Advanced Airdrop for Land Combat (AALC) ATD

Pioneer Aerospace: Melbourne, FL;
SSE: Pennsauken, NJ

Advanced Field Artillery Tactical Data System (AFATDS)

Magnavox: Fort Wayne, IN;
SAIC: San Diego, CA;
Stonebrook Group: (MILTOPE Inc.) Montgomery, AL; (MILTOPE Inc.) Eatontown, NJ

Advanced Integrated Collective Protection System (AICPS)

Loral Corp.: (Loral Librascope) Glendale, CA

Advanced Quick Fix (AQF)

Chrysler Corp.: (Electrospace Systems Inc.) Richardson, TX

Airborne Reconnaissance Low (ARL)

California Microwave Inc.: Belcamp, MD;
TRW Inc.: Sunnyvale, CA

Airborne Standoff Minefield Detection System (ASTAMIDS)

Raytheon Co.: Tewksbury, MA;
Westinghouse Electric Corp.: Baltimore, MD

All Source Analysis System (ASAS)

Carlyle Partners: (BDM International Inc.) McLean, VA;
CODAR: Boulder, CO;
Jet Propulsion Laboratory: Pasadena, CA;
Lockheed Martin Corp.: Littleton, CO; Pittsfield, MA;
Loral Corp.: San Jose, CA;
Magnavox: Fort Wayne, IN

Apache Longbow

ACME: West Jordan, UT;
Allied Signal Inc.: Phoenix, AZ; Eatontown, NJ; Teterboro, NJ;
Fluid Components: San Marcos, CA;
General Electric Co.: Binghamton, NY;
ITT Corp.: Nutley, NJ;
Litton Industries Inc.: Woodland Hills, CA;
Lockheed Martin Corp.: (JV w/ Westinghouse) Orlando, FL;
McDonnell Douglas Corp.: Mesa, AZ;
Parker Hannifin: (Parker Hannifin) Irvine, CA;
SCI Technology: Huntsville, AL;
Smith Industries: Clearwater, FL; Grand Rapids, MI;
Transistor Devices: Fort Walton Beach, FL;
United Technologies Corp.: (Hamilton Standard) Windsor Locks, CT;
Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Baltimore, MD; (JV w/ Lockheed Martin) Dallas, TX

Armored Gun System (AGS)

Chrysler Corp.: (Pentastar) Huntsville, AL;
Computing Devices: Ottawa, ON Canada;
Detroit Diesel: Detroit, MI;
FMC Corp.: (United Defense, LP) Anniston, AL; (United Defense, LP) San Jose, CA; (United Defense, LP) Minneapolis, MN; (United Defense, LP) Aiken, SC;
General Electric Co.: Pittsfield, MA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA;
Textron Inc.: (Cadillac Gage) Warren, MI;
Watervliet Arsenal: Watervliet, NY

Army Data Distribution System (ADDS)

Bowmar Instrument: Fort Wayne, IN;
GEC-Marconi: San Marcos, CA; Totowa, NJ;
General Motors Corp.: (Hughes Electronics) El Segundo, CA; (Hughes Electronics) Forrest, MS;
Rockwell International Corp.: (Defense Electronics Division) Cedar Rapids, IA;
White Technology: Phoenix, AZ

Army Global Command and Control System (AGCCS)

Lockheed Martin Corp.: Springfield, VA

Army Tactical Missile System (Army TACMS)

Atlantic Research: Camden, AR; Gainesville, VA;
Chemical Dynamics: Weatherford, TX;
Eagle Picher: Joplin, MO;
Grey Syracuse: Syracuse, NY;
Hercules Inc.: McGregor, TX;
Hitchner: O'Fallon, MO;
Honeywell Inc.: Clearwater, FL; Minneapolis, MN;
KDI: Cincinnati, OH;
Lockheed Martin Corp.: Milan, TN;
Loral Corp.: (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Horizon City, TX;
Piqua: Piqua, OH;
Simmonds Precision: Cedar Knolls, NJ;
Spincraft: New Berlin, WI;
Taber Metals: Russelville, AR;
Teledyne Inc.: Hollister, CA; Los Angeles, CA;
Texas Metal Spinning: Fort Worth, TX;
Wisconsin Invest Cast: Watertown, WI;
Wyman-Gordon: San Leondro, CA; Groton, CT

Avenger

AC: Huntsville, AL;
Adams Russell: Amesbury, MA;
Arral Industries: Ontario, CA;
ATI: Fort Worth, TX;
Boeing Co.: Huntsville, AL; Oakridge, TN;
CAI: Barrington, IL;
Cherokee Nation: Stillwell, OK;
Colsa: Huntsville, AL;
DBA: Melbourne, FL;
Electro-Tech: Blacksburg, VA;
FMS: Los Angeles, CA;
General Electric Co.: Pittsfield, MA; Burlington, VT;
General Motors Corp.: (Hughes Electronics) Tucson, AZ; (Hughes Electronics) Pomona, CA; (Hughes Electronics) Farmington, NM;
Kaydon: Sumter, SC;
KECO Industries: Florence, KY;
Letterkenny Army Depot: Letterkenny, PA;
Magnavox: Mahwah, NJ;
Milwaukee Gear: Milwaukee, WI;
Nichols Research Corp.: Huntsville, AL;
Phoenix Industries: Huntsville, AL;
Plastic Fabricating: Wichita, KS;
Renton Coil: Renton, WA;
Texas Instruments Inc.: Dallas, TX;
Texstar: Grand Prairie, TX;
United International Engineering: Huntsville, AL;
United Telecontrol Electronics: Asbury Park, NJ;
Wildwood Electronics: Huntsville, AL

Battlefield Combat Identification

AMELEX: Falls Church, VA;
Booz-Allen Hamilton: Eatontown, NJ;
Colsa: Falls Church, VA;
E-OIR Measurements: Fort Belvoir, VA;
GTRI: Atlanta, GA;
IITRI: Eatontown, NJ;
Magnavox: Fort Wayne, IN;
MIT: Cambridge, MA;
Mitre Corp.: Eatontown, NJ;
QUESTECH: Eatontown, NJ; Falls Church, VA;
TRW Inc.: Redondo Beach, CA;
University of Southern California: Los Angeles, CA

Battlefield Combat Identification System (BCIS)—Near Term

FMC Corp.: (United Defense, LP) San Jose, CA;
General Dynamics Corp.: Sterling Heights, MI;
Magnavox: Fort Wayne, IN;
TRW Inc.: Redondo Beach, CA

NOTE: *Prime contractors are identified by italicized text*

Battlefield Distributed Simulation—Developmental

Loral Corp.: Akron, OH

Bistatic Radar for Weapons Location ATD

Syracuse Research: Syracuse, NY

Black Hawk

Aeroquip: Jackson, MI;
Allied Signal Inc.: Tempe, AZ; Teterboro, NJ;
ANF Ducommon: Gardena, CA;
Astronautics of America: Milwaukee, WI;
C.R. Daniels: Ellicott City, MD;
Cameron Forge: Houston, TX;
CR Industries: Elgin, IL;
Dayton-Granger: Fort Lauderdale, FL;
ELDEC: Bothell, WA;
Engineered Fabric: Rockmart, GA;
Fansteel/Wellman Dynamics: Creston, IA;
FL Aerospace: Columbus, OH;
General Electric Co.: Lynn, MA;
Howmet: LaPorte, IN; Muskegon, MI;
New Hampshire Ball Bearing: Laconia, NH;
Northrop-Grumman Corp.: Fleetville, PA;
Parker Hannifin: Irvine, CA;
PCC: Portland, OR;
Plastic Fabricating: Wichita, KS;
Precision Gear: Corona, NY;
Rosemount: Burnsville, MN;
Sentel: Providence, RI;
Simmonds Precision Products: Vergennes, VT;
United Technologies Corp.: (Sikorsky Aircraft) Stratford, CT;
Vickers: Jackson, MS;
Walter Kidde Aerospace: Wilson, NC

Bradley Fighting Vehicle System (BFVS)

ALCOA Forge: Vernon, CA; Cleveland, OH;
Alliant TechSystems Inc.: Minneapolis, MN;
Booz-Allen Hamilton: San Fransisco, CA;
Chrysler Corp.: (Pentastar) Huntsville, AL;
CHT Steel: Ventor, NJ;
Cummins: Columbus, IN;
FMC Corp.: (United Defense, LP) San Jose, CA; (United Defense, LP) York, PA; (United Defense, LP) Aiken, SC; (United Defense, LP) Arlington, VA;
General Motors Corp.: (Hughes Electronics) Manhattan Beach, CA; (Hughes Electronics) La Grange, GA;
LAU Technologies: Acton, MA;
Lockheed Martin Corp.: Pittsfield, MA;
McDonnell Douglas Corp.: Mesa, AZ;
Metric Systems: Fort Walton Beach, FL;
Optical Coating Lab: Santa Rosa, CA;
Reynolds Metals: McCook, IL;
Sioux MFG: Fort Totten, ND;
Teleflex Defense Systems: Spanish Fort, UT;
Texas Instruments Inc.: Dallas, TX

Brilliant Anti-Armor Submunition (BAT)

Analog Devices: Wilmington, MA;
Brentronics: Comack, NY;
Eagle Picher: Joplin, MO;
EG&G Inc.: Covina, CA;
ENDEVCO: San Juan Capistrano, CA;
Group Technology: Tampa, FL;
ILC Dover: Fredrich, DE;
Interpoint: Redmond, WA;
Motorola Inc.: Phoenix, AZ;
Northrop-Grumman Corp.: Hawthorne, CA; Perry, GA;
Olin Corp.: (Physics International) San Leondro, CA;
Pioneer Aerospace: Windsor Locks, CT;
Raytheon Co.: Manchester, NH;
Rocket Research: Redmond, WA;
Speed Ring: Cullman, AL;
SYNDEX: Torrance, CA;
Systron Donner: Concord, CA;
Texas Instruments Inc.: Midland, TX;
Versatron: Healdsberg, CA

Circuit Switch/Message Switch

GTE Corp.: Taunton, MA;
Laguna Industries: Albuquerque, NM

Close Combat Tactical Trainer (CCTT)

Dynamics Research: Wilmington, MA;
ECC International: Wayne, PA;
Evans & Sutherland: Salt Lake City, UT;
Loral Corp.: Bethesda, MD; Manasass, VA;
Pulau Electronics: Orlando, FL;
SAIC: Orlando, FL

Comanche

Advance Intercon: Mill Hall, PA;
Aircraft Porous Media: Pinellas Park, FL;
Allied Signal Inc.: (Allied Signal/Rolls Royce/Allison Team) Glendale, AZ; (Allied Signal/Rolls Royce/Allison Team) Phoenix, AZ; (Allied Signal/Rolls Royce/Allison Team) Tempe, AZ; (Allied Signal/Rolls Royce/Allison Team) Torrance, CA; (Allied Signal/Rolls Royce/Allison Team) South Bend, IN;
AMCC: San Diego, CA;
Applied Amphenol: Sidney, NY;
Applied Microcircuits: San Diego, CA;
ATD: Tucson, AZ;
ATMEL: Colorado Springs, CO;
Automation Software: Stony Brook, NY;
Ball Aerospace: Broomfield, CO;
Boeing Co.: Midlothian, TX; Seattle, WA; (Team w/ UTC's Sikorsky Aircraft) Stratford, CT;
CAE-Link: Binghamton, NY;
Calculex: Las Cruces, NM;
CECO: West Hartford, CT;
Cinch Connector: Elk Grove, IL;
Command Systems Group: Torrance, CA;
CTS: West Lafayette, IN;
ELDEC: Seattle, WA;
Fairchild Space & Defense: Germantown, MD;
Fenn Manufacturing: Newington, CT;
General Electric Co.: Burlington, VT;
GMC-Allison: Indianapolis, IN;
Harris Corp.: Melbourne, FL;
Hercules Inc.: Ogden, UT;
Hexcell: Arlington, TX;
Kaiser Electronics: Carlsbad, CA; San Jose, CA;
Kaman Aerospace: Bloomfield, CT;
Korry Electronic: Seattle, WA;
Lear Astronics: Santa Monica, CA;
Liege: Arlington, VA;
Litton Industries Inc.: Los Angeles, CA;
Lockheed Martin Corp.: Orlando, FL; Burlington, VT;
Loral Corp.: Lexington, MA;
McDonnell Douglas Corp.: St. Louis, MO;
Micro Craft: Ontario, CA;
Micron Tech.: Boise, ID;
Moog: East Aurora, NY;
MPC Products: Skokie, IL;
Northrop-Grumman Corp.: Bethpage, NY;
Parker Hannifin: Woburn, MA;
Polhemus: Colchester, VT;
Rosemount: Burnsville, MN;
Schwartz Electro-Optics: Orlando, FL;
Smith Industries: Florham Park, NJ;
Stonebrook Group: (MILTOPE Inc.) Melville, NY;
Sunstrand: Lima, OH;
Teledyne Inc.: Los Angeles, CA; Hudson, NH;
Teradyne: Nashua, NH;
Timken: Fort Washington, PA;
TLD Systems: Torrance, CA;
TRW Inc.: San Diego, CA;
United Technologies Corp.: (Hamilton Standard) Windsor Locks, CT; (Sikorsky Aircraft Team w/Boeing) Stratford, CT;
Vickers: Jackson, MS;
Vitesse: Camarillo, CA;
VLSI: Tempe, AZ; Clearwater, FL;
Westinghouse Electric Corp.: Baltimore, MD;
Williams International: Walled Lake, MI;
Wyman-Gordon: North Grafton, MA

Combat Service Support Control System (CSSCS)

LB&M Associates: Lawton, OK;
TRW Inc.: Carson, CA

Command and Control Vehicle (C2V)

Airflow: Frederick, MD;
ALCOA Forge: Vernon, CA;
AMI Industries: Colorado Springs, CO;
Antenna Products: Mineral Wells, TX;
Brunswick: Deland, FL;

Cummings: Columbus, IN;
FMC Corp.: (United Defense, LP) San Jose, CA; (United Defense, LP) Aiken, SC;
Gichner Systems Group: Dallastown, PA;
GTE Corp.: Taunton, MA;
Lockheed Martin Corp.: Pittsfield, MA;
Loral Corp.: (Western Development Labs) San Jose, CA;
RDA: Tacoma, WA;
SCFM: Los Angeles, CA;
Triax: Visalia, CA

Common Hardware/Software (CHS)

Carlyle Partners: (BDM International Inc.) Huntsville, AL;
GTE Corp.: Taunton, MA;
Hewlett Packard: Palo Alto, CA;
Magnavox: Fort Wayne, IN;
SAIC: San Diego, CA;
Stonebrook Group: (MILTOPE Inc.) Melville, NY;
Sun Microsystems: Mountain View, CA

Crusader

Alliant TechSystems Inc.: Edina, MN;
FMC Corp.: (United Defense, LP) San Jose, CA; (United Defense, LP) Minneapolis, MN;
Lockheed Martin Corp.: Orlando, FL; Pittsfield, MA; Burlington, VT;
Olin Corp.: Charleston, TN;
Teledyne Inc.: Muskegon, MI;
Thiokol: Elkton, MD

Deployable Medical Systems (DEPMEDS)

Airtacs: Red Lion, PA;
BIOCHEM International: Waukesha, WI;
Brunswick: Marion, VA;
Eastman Kodak: Rochester, NY;
Engineered Systems: Trappe, PA;
Ohmeda Medical: Pleasanton, CA;
Outdoor Venture: Stearns, KY;
Picker: Cleveland, OH

Digital Transmission Assemblages

Aydin: San Jose, CA;
Centrair: Birmingham, AL;
Gichner Systems Group: Dallastown, PA;
Group Technologies: Tampa, FL;
Harris Corp.: Melbourne, FL;
Laguna Industries: Laguna Pueblo, NM;
Raytheon Co.: Marlboro, MA;
Tobyhanna Army Depot: Tobyhanna, PA;
Transistor Devices: Cedar Knolls, NJ

Driver's Vision Enhancer (DVE)

Outsource Solution Inc.: McKinney, TX;
SAIC: San Diego, CA;
Texas Instruments Inc.: Dallas, TX

Enhanced Trackwolf (ET)

Engineering Research Associates: Vienna, VA

Extended Range Multiple Launch Rocket System (ER-MLRS)

KDI: Cincinnati, OH;
Loral Corp.: (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX;
Raytheon Co.: Tewksbury, MA

Family Of Medium Tactical Vehicles (FMTV)

Caterpillar: Peoria, IL;
Rockwell International Corp.: Oshkosh, WI;
Stewart & Stevenson Services: Houston, TX

Force Projection Tactical Operations Center (FP TOC)

Brown International, Inc.: Huntsville, AL
TRW Inc.: Huntsville, AL

Force Provider

Dynamics Corp. of America: Bridgeport, CT;
EASI: St. Louis, MO;
IME: Duva, IL;
Microphor: Willits, CA;
Outdoor Venture: Stearns, KY;
Sierra Army Depot: Sierra, CA;
Teledyne Inc.: Huntsville, AL

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

AXEL Electronics: Rancho Dominguez, CA;
Brunswick: Marion, VA;
DAICO Industrial: Rancho Dominguez, CA;
Diamond Antenna: Winchester, MA;
Electro-Tech: Blacksburg, VA;
ENON: Pittsfield, MA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA; (Hughes Electronics) Forrest, MS;
Gichner Systems Group: Dallastown, PA;
Hazeltine: Greenlawn, NY;
Herly Industries: Woburn, MA;
KINTEC: Dallas, TX;
MA/COM: Burlington, MA;
Midcon Cable: Joplin, MO;
Motion Systems: Carlsbad, CA;
NC Systems: Signal Hill, CA;
Pacific Scientific: Santa Barbara, CA;
Raymond Engineering: Middletown, CT;
Rotron: Woodstock, NY;
SAIC: San Diego, CA;
TAMAM: Yeoud, Israel;
TDI: Fort Walton Beach, FL;
UNISYS Corp.: King of Prussia, PA;
Watkins Johnson: Palo Alto, CA;
Waveline: West Caldwell, NJ

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)

GEC-Marconi: Wayne, NJ;
General Motors Corp.: (Hughes Electronics) Fullerton, CA; (Hughes Electronics) Forrest, MS;
Lockheed Martin Corp.: Nashua, NH;
R&D Associates: Seattle, WA;
Rockwell International Corp.: Cedar Rapids, IA;
Stonebrook Group: (MILTOPE Inc.) Birmingham, AL;
TRW Inc.: Redondo Beach, CA

Gen II Soldier System ATD

Arthur D. Little: Cambridge, MA;
Battelle: Columbus, OH;
General Motors Corp.: (Hughes Electronics) Fullerton, CA;
GENTEX: Carbondale, PA;
Honeywell Inc.: Minneapolis, MN;
Motorola Inc.: Scottsdale, AZ

Grizzly

AAI: Hunt Valley, MD;
Chrysler Corp.: (Pentastar) Huntsville, AL;
Deanco: Ithaca, NY;
E.I. Dupont Denemours: Wilmington, DE;
FMC Corp.: (United Defense, LP) York, PA;
General Dynamics Corp.: Sterling Heights, MI;
General Microwave: Amityville, NY;
GMC-Allison: Indianapolis, IN;
Gradall: New Philadelphia, OH;
ITS: Philadelphia, PA;
Jorge Scientific: Arlington, VA;
Korry Electronic: Seattle, WA;
Textron Inc.: (Cadillac Gage) Warren, MI

Ground-Based Common Sensor (GBCS)

Chrysler Corp.: (Electrospace Systems Inc.) Richardson, TX;
FMC Corp.: (United Defense, LP) Santa Clara, CA;
IBM Corp.: Owego, NY;
Lockheed Martin Corp.: (Lockheed-Sanders Corp. JV w/AEL) Hudson, NH;
Magnavox: Fort Wayne, IN;
Motorola Inc.: Scottsdale, AZ;

Guardrail/ Common Sensor (GR/CS)

ESCO: St. Louis, MO;
IBM Corp.: Owego, NY;
Raytheon Co.: (Beech Aircraft) Wichita, KS;
TRW Inc.: (TRW Inc.) Sunnyvale, CA;
UNISYS Corp.: Salt Lake City, UT

Heavy Equipment Transporter System (HETS)

Oshkosh Truck Corp.: Oshkosh, WI;
Southwest Mobile Systems: St. Louis, MO

Hercules

Barden Carco Gearmatic: Broken Arrow, OK;
Carlyle Johnson Machine: Manchester, CT;
DCA Foods: Jessup, MD;
FMC Corp.: (United Defense, LP) York, PA;
Goodyear: St. Mary's, OH;
Harnischfeger P&H: Oak Creek, WI;
LOC Performance Products: Plymouth, MI;
Maynard Steel Casing: Milwaukee, WI;
Miner Elastomer Products: Geneva, IL;
Teledyne Inc.: Muskegon, MI;
Twin Disc: Racine, WI

High Mobility Artillery Rocket System (HIMARS)

Loral Corp.: (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX

High Mobility Multipurpose Wheeled Vehicle (HMMWV)

AM General: South Bend, IN; Livonia, MI;
American Transcoil: Richmond Hill, NY;
General Motors Corp.: (General Motors Diesel) Moraine,OH; (General Motors Hydromatic) Ypsilanti, MI;
Gleason Gear: Rochester, NY;
Goodyear: Akron, OH;
ITT Corp.: Fort Wayne, IN;
Motor Wheel: Lansing, MI;
New Venture Gear: Schenectady, NY;
O'Gara, Hess and Eisenhardt: Fairfield, OH;
Rockwell International Corp.: Cedar Rapids, IA;
Texas Instruments Inc.: Dallas, TX

Hornet

Eagle Picher: Joplin, MO;
General Motors Corp.: (Hughes Electronics) Fullerton, CA;
Hercules Inc.: Rocket City, WV;
Mason and Hanger: Burlington, IA;
Opto-Electronics: Petaluma, CA;
Texas Instruments Inc.: Dallas, TX;
Textron Inc.: (Textron Defense Systems) Wilmington, MA

Howitzer (M119A1)

Rock Island Arsenal: Rock Island, IL;
Seiler Instrument: St. Louis, MO;
Watervliet Arsenal: Watervliet, NY

Hunter Sensor Suite ATD

Texas Instruments Inc.: Dallas, TX

Hydra 70 Rocket System

BEI Defense Systems: Euless, TX;
Hercules Inc.: Radford, VA;
Radford Army Ammunition Plant: Radford, VA;
Thiokol: Brigham City, UT

Individual Ballistic Protection

Allied Signal Inc.: Hartford, CT;
E.I. Dupont Denemours: Wilmington, DE

Integrated Family of Test Equipment (IFTE)

Northrop-Grumman Corp.: Great River, NY;
SAIC: San Diego, CA

Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator

Allied Signal Inc.: Phoenix, AZ;
General Electric Co.: Lynn, MA;
Textron Inc.: (Textron Lycoming) Stratford, CT

Integrated System Control (ISYSCON)

ACSI: Burlington, MA;
BBN Systems and Technologies: Carson, CA;
GTE Corp.: Taunton, MA;
SofTech: Waltham, MA;
TRW Inc.: Cambridge, MA

Javelin

Abex/NWL Aerospace: Dublin, GA;
AC: Huntsville, AL;
Atlantic Research: Camden, AR;
Carleton Technologies: Orchard Park, NY;
Classic Composites Design: Irvine, CA;
Conax Florida: Tampa, FL;
Condor Pacific Industries: Westlake Village, CA;
Eagle Picher: Joplin, MO;
ECC International: Orlando, FL;
GEC-Marconi: Wayne, NJ;
Hercules Inc.: Rocket City, WV;
High Tech: Camden, AR;
Lockheed Martin Corp.: (JV w/ Texas Instruments) Troy, AL; (JV w/ Texas Instruments) Ocala, FL; (JV w/ Texas Instruments) Orlando, FL;
Loral Corp.: Lexington, MA;
Magnavox: Fort Wayne, IN;
Mason and Hanger: Middletown, IA;
Orlando Technologies: Shalimar, FL;
Santa Barbara Research Center: Goleta, CA;
Sparta: San Diego, CA;
Texas Instruments Inc.: (JV w/ Lockheed Martin) Lewisville, TX;
Viking Electronics: Chatsworth, CA

Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM)

CUBIC Defense Systems: San Diego, CA;
Motorola Inc.: Scottsdale, AZ;
Northrop-Grumman Corp.: Melbourne, FL

Joint Tactical Ground Station (JTAGS)

Advanced Programming Concepts: Pfluegerville, TX;
Berg Systems: Carlsbad, CA;
Datron: Simi Valley, CA;
GenCorp Inc.: (Aerojet) Azusa, CA; (Aerojet) Colorado Springs, CO;
Gichner Systems Group: Hunt Valley, MD;
Loral Corp.: Boulder, CO;
Response Service and Innovation: Austin, TX;
Silicon Graphics: Mountain View, CA

Joint Tactical Terminal (JTT)

E-Systems: St. Petersburg, FL

Kiowa Warrior

Allied Signal Inc.: Tucson, AZ; Baltimore, MD;
Ball Aerospace: Boulder, CO;
BEI Defense Systems: Fort Worth, TX;
GEC-Marconi: Little Falls, NJ;
General Dynamics Corp.: Pomona, CA;
GMC-Allison: Indianapolis, IN;
Honeywell Inc.: Minneapolis, MN; Albuquerque, NM;
Litton Industries Inc.: Woodland Hills, CA; Orlando, FL;
Magnavox: Fort Wayne, IN;
McDonnell Douglas Corp.: Montovia, CA;
Northrop-Grumman Corp.: Hawthorne, CA;
Rockwell International Corp.: Cedar Rapids, IA;
Teleponics: Huntington, NY;
Textron Inc.: Fort Worth TX

Laser HELLFIRE

Lockheed Martin Corp.: (JV w/ Westinghouse) Orlando, FL;
Rockwell International Corp.: Duluth, GA;
Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Baltimore, MD

Line-of-Sight Antitank (LOSAT)

Allied Signal Inc.: Cheshire, CT;
APD Cryogenics: Allentown, PA;
Atlantic Research: Camden, AR; Gainesville, VA;
Aydin: Newton, PA;
Booz-Allen Hamilton: Huntsville, AL; McLean, VA;
Brunswick: Lincoln, NE;
Coleman Research Corp.: Huntsville, AL;
Colsa: Huntsville, AL;
Cortez III: Alamagordo, NM;
Cypress: San Jose, CA;
Dense-Pac: Garden Grove, CA;
DRI: Vero Beach, FL;
Eagle Picher: Joplin, MO;
EDO: Salt Lake City, UT;
FMC Corp.: (United Defense, LP) San Jose, CA;
GEC-Marconi: Atlanta, GA;
General Research: Research Park, NC;
Graseby Infrared: Orlando, FL;
Haigh-Farr: Woburn, MA;
Hercules Inc.: Rocket City, WV;
Kaman Sciences: Colorado Springs, CO;
Loral Corp.: (Loral Vought Systems) Orlando, FL; (Loral Vought Systems) Cambridge, MA; (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Bellevue, WA;
LSI Logic Systems: Milpitas, CA;
Microcom: Warminster, PA;
Nichols Research Corp.: Huntsville, AL;
Quantic Industries: Salinas, CA;
R.E. Darling: Tucson, AZ;
SESI: Huntsville, AL;
Texas Instruments Inc.: Dallas, TX;
TRW Inc.: Troy, MI

Longbow HELLFIRE

Lockheed Martin Corp.: (JV w/ Westinghouse) Orlando, FL;
Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Baltimore, MD

M113 Family of Vehicles (FOV)

Detroit Diesel: Detroit, MI;
FMC Corp.: (United Defense, LP) San Jose, CA;
GMC-Allison: Indianapolis, IN

Maneuver Control System (MCS)

ESC: Eatontown, NJ;
GTE Corp.: Taunton, MA; (Telos) Shrewsbury, NJ;
Mitre Corp.: Eatontown, NJ

Medium Extended Air Defense Systems (MEADS)

Aerospatiele: France;
Alenia: Italy;
Deutsche Aerospace: Germany;
General Motors Corp.: (Hughes Electronics Team w/Raytheon) El Segundo, CA;
Lockheed Martin Corp.: Huntsville, AL; Orlando, FL; Syracuse, NY;
Raytheon Co.: (Team w/GMC's Hughes Electronics) Bedford, MA;
Siemens: Germany;
Thomson: France

Milstar (Army)

CommQuest: Enchinitas, CA;
Harris Corp.: Melbourne, FL;
Lockheed Martin Corp.: Camden, NJ;
Rantee Microwave & Electronics: Calabasas, CA;
Raytheon Co.: Marlboro, MA;
Rockwell International Corp.: Richardson, TX;
Titan (Linkabit): San Diego, CA;
TRW Inc.: Redondo Beach, CA

Mobile Subscriber Equipment (MSE)

AM General: Livonia, MI;
Ericsson Radio Systems AB: Molndal, Sweden;
FN Manufacturing: Columbia, SC;
Gould: El Monte, CA;
GTE Corp.: Taunton, MA;
KECO Industries: Florence, KY;
Magnavox: Philadelphia, PA;
Raytheon Co.: Marlboro, MA;
Telex Communications: Lincoln, NE;
Thomson CSF: Laval, Cholet & Toulouse, France

Mortar (120 mm)

Accudyne: Janesville, WI;
ARMTEC: Coachella, CA;
Brockway Standard: Homerville, GA;
Duchossois Industries: Scranton, PA;
Fermont: Bridgeport, CT;
FMS: Los Angeles, CA;
General Motors Corp.: Canada;
Hercules Inc.: Radford, VA;
Lockheed Martin Corp.: Burlington, VT;
Loral Corp.: Archibald, PA;
MMOS Milan Army Ammunition Plant: Milan, TN;
Olin Corp.: East Alton, IL;
Pine Bluff Arsenal: Pine Bluff, AR;
Radford Army Ammunition Plant: Radford, VA;
Red River Army Depot: Texarkana, TX;
Scranton Army Ammunition Plant: Scranton, PA;
Stocker & Yale: Beverly, MA;
United Ammunition Container: Milan, TN;
Watervliet Arsenal: Watervliet, NY

MPIM/SRAW

GenCorp Inc.: (Aerojet) Sacramento; CA
Loral Corp.: (Loral Aeronutronic) Ranch Santa Margarita, CA

Multiple Launch Rocket System (MLRS)

Allied Signal Inc.: Teterboro, NJ;
Atlantic Research: Camden, AR;
Brunswick: Camden, AR;
Loral Corp.: (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas TX;
Norris Industries: Los Angeles, CA;
United Technologies Corp.: Norwalk, CT

National Missile Defense (NMD)

APT Research: Huntsville, AL;
Arnold Engineering Development Ctr.: Tullahoma, TN;
ASG: Huntsville, AL;
Boeing Co.: Seattle, WA;
Booz-Allen Hamilton: Huntsville, AL;
Carlyle Partners: (BDM International Inc.) Huntsville, AL;
Colsa: Huntsville, AL;
General Motors Corp.: (Hughes Aircraft) Tucson, AZ; (Hughes Aircraft) El Segundo, CA;
General Research: Huntsville, AL;
Honeywell Inc.: Clearwater, FL;
Kearfott: Wayne, NJ;
Lincoln National Laboratory: Lexington, MA;
Litton Industries Inc.: Woodland Hills, CA;
Lockheed Martin Corp.: (Lockheed Missiles & Space) Sunnyvale, CA;
Loral Corp.: Dallas, TX;
McDonnell Douglas Corp.: Huntington Beach, CA;
Mevatec: Huntsville, AL;
Mission Research: San Diego, CA;
Mitre Corp.: Huntsville, AL;
Nichols Research Corp.: Huntsville, AL;
Photon Research Association: La Jolla, CA;
Raytheon Co.: Wayland, MA;
Rockwell International Corp.: Downey, CA;
Sandia National Laboratory: Albequerque, NM;
Santa Barbara Research Center: Santa Barbara, CA;
Sparta: Huntsville, AL;
Stone Engineering: Huntsville, AL;
Teledyne Inc.: Huntsville, AL;
TRW Inc.: Redondo Beach, CA;
Xontech: Huntington Beach, CA

NAVSTAR Global Positioning System (GPS)

Rockwell International Corp.: Cedar Rapids, IA

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)

AEL Defense: Alpharetta, GA;
Brunswick: Bedford, MA;
Electro-Optical Sensors: Palo Alto, CA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA;
IMO (Optic-Electronic): Dallas, TX;
Insight Technology: Manchester, NH;
ITT Corp.: Roanoke, VA;
Litton Industries Inc.: Tempe, AZ;
Lockheed Martin Corp.: Orlando, FL; (Lockheed-Sanders Corp.) Nashua, NH;
Magnavox: Mahwah, NJ;
Texas Instruments Inc.: Dallas, TX;
Westinghouse Electric Corp.: Baltimore, MD

Nuclear, Biological, and Chemical (NBC) Detection

Battelle: Edgewood, MD;
Brunswick: Deland, FL;
Environment Technologies Group: Baltimore, MD;
Graseby Ionics: Watford, Herts, United Kingdom;
Nuclear Research: Dover, NJ

Nuclear, Biological, and Chemical Reconnaissance System (NBCRS)—FOX

General Dynamics Corp.: (Land Systems Division) Detroit, MI;
Thyssen Henschel: Germany

Paladin

Alliant TechSystems Inc.: Edina, MN;
Detroit Diesel: Detroit, MI;
FMC Corp.: (United Defense, LP) Letterkenny, PA; (United Defense, LP) York, PA;
Honeywell Inc.: St. Petersburg, FL;
Sechan Electronics: Littiz, PA

Palletized Load System (PLS)

CM Automotive: Oshkosh, WI;
Detroit Diesel: Detroit, MI;
GMC-Allison: Indianapolis, IN;
Grove Crane: Shady Grove, PA;
Michelin: Nova Scotia, Canada;
Oshkosh Truck Corp.: Oshkosh, WI;
OTC Trailer: Bradenton, FL;
Rockwell International Corp.: Oshkosh, WI;
Steeltech: Milwaukee, WI

Patriot

Adel: Newell, WV;
Aerospace Interconnect Systems: Titusville, FL;
Airsan: Milwuakee, WI;
Alliance Electronics: Scotsdale, NM;
Allied Signal Inc.: Baltimore, MD;
Aluminum Forge: Indianapolis, IN;
Amco Engineering: Schiller Park, IL;
AMPEX: Sunnyvale, CA;

Analog Devices: Greensboro, NC;
Anderson Labs: Bloomfield, CT;
ARC & LV: Camden, AR;
Arrow Electronics: Winston-Salem, NC;
Atlantic Research: Gainesville, VA;
Audio: Fairfax, VA;
B.E. Controls: Davenport, IA;
Brunswick: Lincoln, NE; Marion, VA;
C.P.I.: Broussard, LA;
Cherokee Nation: Stillwell, OK;
Coors Porcelain: Golden, CO;
Dale Electronics: Columbus, NE;
Deleval: Cleveland, OH;
Eagle Picher: Joplin, MO;
EDO: Salt Lake City, UT;
Explosive Technologies: Fairfield, CA;
Fibertek: Springville, UT;
G.S. Precision: Brattleboro, VT;
GEC-Marconi: Frenchtown, NJ;
General Motors Corp.: (Hughes Electronics) Newport Beach, CA;
Gichner Systems Group: Dallastown, PA;
GTE Corp.: Towanda, PA;
Haigh-Farr: Woburn, MA;
Hartman Elec.: Atlanta, GA;
Hercules Inc.: Cumberland, MD;
Hi-Shear Technologies: Torrance, CA;
Honeywell Inc.: Clearwater, FL; Minneapolis, MN;
Irving B. Moore: Lexington, KY;
Jade Manufacturing: Warwick, RI;
Kaiser Electroprecision: Irvine, CA;
Kaydon: Muskegon, MI;
KDI: Cincinnati, OH;
Kemet: Greenville, SC;
Litton Industries Inc.: Woodland Hills, CA; Clifton Heights, PA;
Lockheed Martin Corp.: Orlando, FL; Baltimore, MD;
Loral Corp.: (Loral Vought Systems) San Diego, CA; (Loral Vought Systems) Dallas, TX;
Lucas Aerospace: Aurora, OH;
Lucas Epsco: Hopkinton, MA;
Metal Masters: Guntown, MS;
Micro Networks: Worcester, MA;
Microwave Tech.: Raymond, ME;
Minco Products: Minneapolis, MN;
Motorola Inc.: Phoenix, AZ;
Murata Erie: Smyrna, GA;
Networks International: Lenexa, KS;
Oeco: Milwaukee, OR;
Ovenair: Marion, VA;
Pacific Scientific: Prescott, AZ;
Piezo Tech.: Orlando, FL;
Precision Cable of Tennessee: Gallatin, TN;
Prescott Foundry: Prescott, AZ;
Quality Thermistor: Boise, ID;
Rantec: Calabasas, CA;
Raymond Engineering: Middleton, CT;
Raytheon Co.: Bedford, MA;
RHG Electronics Lab: Deer Park, NY;
RI Tac System Division: Atlanta, GA; Duluth, GA;
Rockwell International Corp.: Anaheim, CA; Dallas, TX;
Sensitron: Deer Park, NY;
Signetics: Sunnyvale, CA;
Sunstrand: Redmond, WA;
Systron Donner: Sylmar, CA;
Taber Metals: Russelville, AR;
Tecnetics: Boulder, CO;
Teledyne Inc.: Mountain View, CA;
Thiokol: Huntsville, AL;
Torotel: St. Louis, MO;
TRON-TECH: Eatontown, NJ;
TRW Inc.: Campbell, CA;
Valley Enterprises: Sandy, UT;
Varian: Palo Alto, CA;
Varian Associates: Beverly, MA;
W.L. Gore Associates: Newark, DE;
West Milton Precision: Vandalia, OH;
Woven Electronics: Simpsonville, SC;
Zeta Laboratories: San Jose, CA

Protective Masks (M40 Series)

ILC Dover: Dover, DE;
Mine Safety Appliance: Pittsburgh, PA

Radar Deception and Jamming (RD&J) ATD

Allied Signal Inc.: Teterboro, NJ;
ITT Corp.: Clifton, NJ

Rail Cars

AMF Technotransport Inc.: Montreal, Canada

Satellite Communications (SATCOM)

Cincinnati Electronics: Cincinnati, OH;
General Electric Co.: Valley Forge, PA;
GTE Corp.: Taunton, MA;
Harris Corp.: Melbourne, FL;
Lockheed Martin Corp.: Bethesda, MD;
Loral Corp.: Colorado Springs, CO;
Magnavox: Torrance, CA; Fort Wayne, IN;
Motorola Inc.: Scottsdale, AZ;
Stanford Electronics: Colorado Springs, CO;
Titan: San Diego, CA;
Trivec Avant: Huntington Beach, CA

Second Generation Foward Looking Infrared (2d Gen FLIR)

Chrysler Corp.: (Pentastar), AL;
General Motors Corp.: (Hughes Electronics) El Segundo, CA;
Texas Instruments Inc.: McKinney, TX

Sense and Destroy Armor (SADARM)

Alliant TechSystems Inc.: Edina, MN;
Dynaco: Tempe, AZ;
Eagle Picher: Joplin, MO;
Ensign Bickford Aerospace: Simsbury, CT;
GenCorp Inc.: (Aerojet) Azusa, CA;
Harris Corp.: Melbourne, FL;
LSI Logic: Fremont, CA;
Phoenix Microwave: Telford, PA;
Pioneer Aerospace: South Windsor, CT;
Soladyne Division: San Diego, CA;
Teledyne Inc.: Los Angeles, CA

Single Channel Ground and Airborne Radio System (SINCGARS)

General Dynamics Corp.: Tallahassee, FL;
ITT Corp.: Fort Wayne, IN;
Talla-Comm: Tallahassee, FL

Small Arms (M16A2 Rifle)

Colt's Manufacturing Co.: Hartford, CT;
FN Manufacturing: Columbia, SC

Small Arms (M249 Squad Automatic Weapon)

FN Manufacturing: Columbia, SC

Small Arms (M4 Carbine)

Colt's Manufacturing Co.: Hartford, CT

Small Arms (M9 9 mm Personal Defense Weapon)

Beretta USA: Accokeek, MD

Small Arms (MK-19-3 40 mm Automatic Grenade Launcher)

Duchossois Industries: (Saco Defense) Saco, ME

Smoke Generator (M58)

TBD

Smoke Generator (XM56)

Robotic Systems Technology: Westminster, MD

Soldier System

CAPCO:
Decilog: Melville, NY;
General Motors Corp.: (Hughes Aircraft) El Segundo, CA;
Olin Corp.: East Alton, IL;
SARCO: Sterling, NJ;
Texas Instruments Inc.: San Antonio, TX

Special Operations Aircraft (SOA)

Allied Signal Inc.: Teterboro, NJ;
Boeing Co.: Philadelphia, PA;
CAE Link: Binghamton, NY;
General Motors Corp.: (Hughes Electronics) Mesa, AZ;
Loral Corp.: Owego, NY;
Robertson Aviation: Tempe, AZ;
Texas Instruments Inc.: McKinney, TX;
Textron Inc.: (Textron Lycoming) Stratford, CT;
United Technologies Corp.: (Sikorsky Aircraft) Stratford, CT

Standard Army Management Information Systems (STAMIS)

Computer Sciences Corp.: Moorestown, NJ;
Loral Corp.: (Loral Federal Systems) Bethesda, MD;
PRC, Inc.: McLean, VA

Standardized Integrated Command Post System (SICPS)

Brunswick: Marion, VA;
Camel: Knoxville, TN;
FMC Corp.: (United Defense, LP) San Jose, CA;
Gichner Systems Group: Hunt Valley, MD;
Letterkenny Army Depot: Letterkenny, PA;
Tobyhanna Army Depot: Tobyhanna, PA

Stinger

AC: Huntsville, AL;
Arral Industries: Ontario, CA;

Atlantic Research: Gainesville, VA;
Bausch & Lomb: Rochester, NY;
Cincinnati Electronics: Cincinnati, OH;
Eagle Picher: Joplin, MO;
Electro Design: Decatur, AL;
General Motors Corp.: (Hughes Aircraft) Tucson, AZ,; (Hughes Aircraft) Farmington, NM; (Hughes Aircraft) Pomona, CA;
Honeywell Inc.: Minneapolis, MN;
Lourdes: Hauppauge, NY;
Magnavox: Fort Wayne, IN;
Nichols Research Corp.: Huntsville, AL;
Phototronics: Rome, NY;
SCI Systems: Huntsville, AL;
United International Engineering: Huntsville, AL;
United Telecontrol Electronics: Asbury Park, NJ

Tactical Endurance Synthetic Aperture Radar (TESAR)

Westinghouse Electric Corp.: Baltimore, MD; Albequerque, NM

Tactical Quiet Generators (TQG)

Fermont: Bridgeport, CT;
Libby: Kansas City, MO

Tactical Unmanned Aerial Vehicle (UAV)

TBD

Tank Main Gun Ammunition

Alliant TechSystems Inc.: Brooklyn Park, MN;
ARMTEC: Coachella, CA;
Bulova: Lancaster, PA;
GenCorp Inc.: (Aerojet) Jonesboro, TN;
Hercules Inc.: Clearwater, FL; Radford, VA; Rocket City, WV;
Mason and Hangar: Middletown, IA;
Microcom: Philadelphia, PA;
Motorola Inc.: Scottsdale, AZ;
MVI: Pittsburgh, PA;
Nuclear Metals: Concord, MA;
Olin Corp.: St. Petersburg, FL;
Radford Army Ammunition Plant: Radford, VA

Theater High Altitude Area Defense (THAAD) System

Anaren: Syracuse, NY;
Aydin Vector: Newton, PA;
CPI: Boston, MA;
DEC: Salem, NH;
Decom Systems: Carlsbad, CA;
Eagle Picher: Joplin, MO;
EBCO: Vancouver, BC, Canada;
EDAC: Fredericksburg, VA;
Engine & Equipment Co.: Rancho Domingez, CA;
Gichner Systems Group: Dallastown, PA; Hunt Valley, MD;
Hewlett Packard: Palo Alto, CA;
Honeywell Inc.: Orlando, FL;
Litton Industries Inc.: Agoura Hills, CA;
Lockheed Martin Corp.: (Lockheed Missiles & Space) Huntsville, AL; (Lockheed Missiles & Space) Sunnyvale, CA; (Lockheed-Sanders Corp.) Nashua, NH;
Loral Corp.: Lexington, MA; Dallas, TX;
OCLI: Santa Rosa, CA;
Oshkosh Truck Corp.: Oshkosh, WI;
Pacific Scientific: Chandler, AZ;
Phase IV Systems: Huntsville, AL;
Raytheon Co.: Wayland, MA;
Rocket Research: Redmond, WA;
Rocketdyne: Canoga Park, CA;
Silicon Graphics: Mountain View, CA;
Texas Instruments Inc.: Dallas, TX;
Thiokol: Elkton, MD;
TRW Inc.: Redondo Beach, CA;
United Technologies Corp.: San Jose, CA;
Westinghouse Electric Corp.: Sunnyvale, CA; Baltimore, MD

Thermal Weapon Sight (TWS)

Aeroflex Laboratories: Plainview, NY;
Coast Magnetics: Los Angeles, CA;
Cole Instruments: Santa Ana, CA;
Cristek Interconnects: Anaheim, CA;
Eltro GmbH: Heidelberg, Germany;
Fairview Machine: Topsfield, MA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA; (Hughes Georgia Inc.) LaGrange, GA; (Hughes Leitz Optical Technologies) Midland, OH; (Hughes Microelectronics Division) Newport Beach, CA; (Packard Hughes Interconnects) Irvine, CA;
KB Tooling: Sun Valley, CA;
Marlow Industries Inc.: Dallas, TX;
Motorola Inc.: Scottsdale, AZ;
Otto Controls: Carpentersville, IL;
Phillips Semiconductors: Sunnyvale, CA;
PRP Optoelectronics: Northamptonshire, England;
Santa Barbara Research Center: Santa Barbara, CA

TOW Improved Target Acquisition System (ITAS)

DY4 Systems: Ontario, Canada;
General Motors Corp.: (Hughes Electronics) El Segundo, CA;
IMO (VARO): Garland, TX;
IST Corp.: Horseheads, NY;
Keltec Corp.: Ft Walton Beach, FL;
Loral Corp.: Syosset, NY;
Mason Electric: San Francisco, CA;
OMI: Melbourne, FL;
Santa Barbara Research Center: Goleta, CA;
Texas Instruments Inc.: McKinney, TX

TOW Weapon System

Allied Signal Inc.: Cheshire, CT;
American Steel & Wire: Cleveland, OH;
BP Chemical: Auburn, WA;
BW/IP: Van Nuys, CA;
DY4 Systems: Ontario, Canada;
Eagle Picher: Joplin, MO;
GenCorp Inc.: Azusa, CA;
General Motors Corp.: (Hughes Electronics) Tucson, AZ; (Hughes Electronics) Goleta, CA;
Hercules Inc.: Radford, VA;
Kaiser Aluminum: Erie, PA;
Loral Corp.: Archibald, PA;
Mason and Hanger: Middletown, IA;
OMI: Melbourne, FL;
Quadion: Minneapolis, MN;
Smart Telecommunication: Verdi, NV;
Technology for Communications International: Fremont, CA;
Texas Instruments Inc.: Dallas, TX;
Thorn EMI: Middlesex, England;
Varo Industries: Garland, TX

Volcano

Brunswick: Deland, FL;
Nomura Enterprise: Rock Island, IL;
S & K Electronics: Roman, MT

Wolverine

Caterpillar: Peoria, IL;
General Dynamics Corp.: (Land Systems Division) Sterling Heights, MI;
MAN GHH: Dusseldorf, Germany;
Stewart and Stevenson Services: Houston, TX

ALABAMA

Abrams Tank
Anniston Army Depot: Anniston, AL

Advanced Field Artillery Tactical Data System (AFATDS)
Stonebrook Group: (MILTOPE Inc.) Montgomery, AL

Apache Longbow
SCI Technology: Huntsville, AL

Armored Gun System (AGS)
Chrysler Corp.: (Pentastar) Huntsville, AL;
FMC Corp.: (United Defense, LP) Anniston, AL

Avenger
AC: Huntsville, AL;
Boeing Co.: Huntsville, AL;
Colsa: Huntsville, AL;
Nichols Research Corp.: Huntsville, AL;
Phoenix Industries: Huntsville, AL;
United International Engineering: Huntsville, AL;
Wildwood Electronics: Huntsville, AL

Bradley Fighting Vehicle System (BFVS)
Chrysler Corp.: (Pentastar) Huntsville, AL

Brilliant Anti-Armor Submunition (BAT)
Speed Ring: Cullman, AL

Common Hardware/Software (CHS)
Carlyle Partners: (BDM International Inc.) Huntsville, AL

Digital Transmission Assemblages
Centrair: Birmingham, AL

Force Projection Tactical Operations Center (FP TOC)
TRW Inc.: Huntsville, AL

Force Provider
Teledyne Inc.: (Teledyne Brown) Huntsville, AL

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)
Stonebrook Group: (MILTOPE Inc.) Birmingham, AL

Grizzly
Chrysler Corp.: (Pentastar) Huntsville, AL

Javelin
AC: Huntsville, AL;
Lockheed Martin Corp.: (JV w/ Texas Instruments) Troy, AL

Line-of-Sight Antitank (LOSAT)
Booz-Allen Hamilton: Huntsville, AL;
Coleman Research Corp.: Huntsville, AL;
Colsa: Huntsville, AL;
Nichols Research Corp.: Huntsville, AL;
SESI: Huntsville, AL

Medium Extended Air Defense System
Lockheed Martin Corp.: Huntsville, AL

National Missile Defense (NMD)
APT Research: Huntsville, AL;
ASG: Huntsville, AL;
Booz-Allen Hamilton: Huntsville, AL;
Carlyle Partners: (BDM International Inc.) Huntsville, AL;
Colsa: Huntsville, AL;
General Research: Huntsville, AL;
Mevatec: Huntsville, AL;
Mitre Corp.: Huntsville, AL;
Nichols Research Corp.: Huntsville, AL;
Sparta: Huntsville, AL;
Stone Engineering: Huntsville, AL;
Teledyne Inc.: Huntsville, AL

Patriot
Thiokol: Huntsville, AL

Second Generation Foward Looking Infrared (2d Gen FLIR)
Chrysler Corp.: (Pentastar), AL

Stinger
AC: Huntsville, AL;
Electro Design: Decatur, AL;
Nichols Research Corp.: Huntsville, AL;
SCI Systems: Huntsville, AL;
United International Engineering: Huntsville, AL

Theater High Altitude Area Defense (THAAD) System
Lockheed Martin Corp.: (Lockheed Missiles & Space) Huntsville, AL;
Phase IV Systems: Huntsville, AL

ARIZONA

Apache Longbow
Allied Signal Inc.: Phoenix, AZ;
McDonnell Douglas Corp.: Mesa, AZ

Army Data Distribution System (ADDS)
White Technology: Phoenix, AZ

Avenger
General Motors Corp.: (Hughes Electronics) Tucson, AZ

Black Hawk
Allied Signal Inc.: Tempe, AZ

Bradley Fighting Vehicle System (BFVS)
McDonnell Douglas Corp.: Mesa, AZ

Brilliant Anti-Armor Submunition (BAT)
Motorola Inc.: Phoenix, AZ

Comanche
Allied Signal Inc.: (Allied Signal/Rolls Royce/Allison Team) Glendale, AZ,; (Allied Signal/Rolls Royce/Allison Team) Phoenix, AZ; (Allied Signal/Rolls Royce/Allison Team) Tempe, AZ;
ATD: Tucson, AZ;
VLSI: Tempe, AZ

Gen II Soldier System ATD
Motorola Inc.: Scottsdale, AZ

Ground-Based Common Sensor (GBCS)
Motorola Inc.: Scottsdale, AZ

Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator
Allied Signal Inc.: Phoenix, AZ

Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM)
Motorola Inc.: Scottsdale, AZ

Kiowa Warrior
Allied Signal Inc.: Tucson, AZ

Line-of-Sight Antitank (LOSAT)
R.E. Darling: Tucson, AZ

National Missile Defense (NMD)
General Motors Corp.: (Hughes Aircraft) Tucson, AZ

Night Vision/Reconnaissance, Surveillance & Target Recognition (NV/RSTR)
Litton Industries Inc.: Tempe, AZ

Patriot
Motorola Inc.: Phoenix, AZ;
Pacific Scientific: Prescott, AZ;
Prescott Foundry: Prescott, AZ

Satellite Communications (SATCOM)
Motorola Inc.: Scottsdale, AZ

Sense and Destroy Armor (SADARM)
Dynaco: Tempe, AZ

Special Operations Aircraft (SOA)
General Motors Corp.: (Hughes Electronics) Mesa, AZ;
Robertson Aviation: Tempe, AZ

Stinger
General Motors Corp.: (Hughes Aircraft) Tucson, AZ

Tank Main Gun Ammunition
Motorola Inc.: Scottsdale, AZ

Theater High Altitude Area Defense (THAAD) System
Pacific Scientific: Chandler, AZ

NOTE: *Prime contractors are identified by italicized text*

Thermal Weapon Sight (TWS)
Motorola Inc.: Scottsdale, AZ

TOW Weapon System
General Motors Corp.: (Hughes Electronics) Tucson, AZ

ARKANSAS

Army Tactical Missile System (Army TACMS)
Atlantic Research: Camden, AR;
Loral Corp.: (Loral Vought Systems) Camden, AR;
Taber Metals: Russelville, AR

Extended Range Multiple Launch Rocket System (ER-MLRS)
Loral Corp.: (Loral Vought Systems) Camden, AR

High Mobility Artillery Rocket System (HIMARS)
Loral Corp.: (Loral Vought Systems) Camden, AR

Javelin
Atlantic Research: Camden, AR;
High Tech: Camden, AR

Line-of-Sight Antitank (LOSAT)
Atlantic Research: Camden, AR

Mortar (120 mm)
Pine Bluff Arsenal: Pine Bluff, AR

Multiple Launch Rocket System (MLRS)
Atlantic Research: Camden, AR;
Brunswick: Camden, AR;
Loral Corp.: (Loral Vought Systems) Camden, AR

Patriot
ARC & LV: Camden, AR;
Taber Metals: Russelville, AR

CALIFORNIA

Abrams Tank
General Motors Corp.: (Hughes Electronics) Los Angeles, CA

Advanced Field Artillery Tactical Data System (AFATDS)
SAIC: San Diego, CA

Advanced Integrated Collective Protection System (AICPS)
Loral Corp.: (Loral Librascope) Glendale, CA

Airborne Reconnaissance Low (ARL)
TRW Inc.: Sunnyvale, CA

All Source Analysis System (ASAS)
Jet Propulsion Laboratory: Pasadena, CA;
Loral Corp.: San Jose, CA

Apache Longbow
Fluid Components: San Marcos, CA;
Litton Industries Inc.: Woodland Hills, CA;
Parker Hannifin: Irvine, CA

Armored Gun System (AGS)
FMC Corp.: (United Defense, LP) San Jose, CA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA

Army Data Distribution System (ADDS)
GEC-Marconi: San Marcos, CA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA

Army Tactical Missile System (Army TACMS)
Teledyne Inc.: Hollister, CA;
Los Angeles, CA;
Wyman-Gordon: San Leondro, CA

Avenger
Arral Industries: Ontario, CA;
FMS: Los Angeles, CA;
General Motors Corp.: (Hughes Electronics) Pomona, CA

Battlefield Combat Identification
TRW Inc.: Redondo Beach, CA;
University of Southern California: Los Angeles, CA

Battlefield Combat Identification System (BCIS)—Near Term
FMC Corp.: (United Defense, LP) San Jose, CA;
TRW Inc.: Redondo Beach, CA

Black Hawk
ANF Ducommon: Gardena, CA;
Parker Hannifin: Irvine, CA

Bradley Fighting Vehicle System (BFVS)
ALCOA Forge: Vernon, CA;
Booz-Allen Hamilton: San Fransisco, CA;
FMC Corp.: (United Defense, LP) San Jose, CA;
General Motors Corp.: (Hughes Electronics) Manhattan Beach, CA;
Optical Coating Lab: Santa Rosa, CA

Brilliant Anti-Armor Submunition (BAT)
EG&G Inc.: Covina, CA;
ENDEVCO: San Juan Capistrano, CA;
Northrop-Grumman Corp.: Hawthorne, CA;
Olin Corp.: San Leondro, CA;
SYNDEX: Torrance, CA;
Systron Donner: Concord, CA;
Versatron: Healdsberg, CA

Comanche
Allied Signal Inc.: (Allied Signal/Rolls Royce/Allison Team) Torrance, CA;
AMCC: San Diego, CA;
Applied Microcircuits: San Diego, CA;
Command Systems Group: Torrance, CA;
Kaiser Electronics: Carlsbad, CA; San Jose, CA;
Lear Astronics: Santa Monica, CA;
Litton Industries Inc.: Los Angeles, CA;
Micro Craft: Ontario, CA;
Teledyne Inc.: Los Angeles, CA;
TLD Systems: Torrance, CA;
TRW Inc.: San Diego, CA;
Vitesse: Camarillo, CA

Combat Service Support Control System (CSSCS)
TRW Inc.: Carson, CA

Command and Control Vehicle (C2V)
ALCOA Forge: Vernon, CA;
FMC Corp.: (United Defense, LP) San Jose, CA;
Loral Corp.: (Western Development Labs) San Jose, CA;
SCFM: Los Angeles, CA;
Triax: Visalia, CA

Common Hardware/Software (CHS)
Hewlett Packard: Palo Alto, CA;
SAIC: San Diego, CA;
Sun Microsystems: Mountain View, CA

Crusader
FMC Corp.: (United Defense, LP) San Jose, CA

Deployable Medical Systems (DEPMEDS)
Ohmeda Medical: Pleasanton, CA

Digital Transmission Assemblages
Aydin: San Jose, CA

Driver's Vision Enhancer (DVE)
SAIC: San Diego, CA

Force Provider
Microphor: Willits, CA;
Sierra Army Depot: Sierra, CA

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
AXEL Electronics: Rancho Dominguez, CA;
DAICO Industrial: Rancho Dominguez, CA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA;
Motion Systems: Carlsbad, CA;
NC Systems: Signal Hill, CA;
Pacific Scientific: Santa Barbara, CA;
SAIC: San Diego, CA;
Watkins Johnson: Palo Alto, CA

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)
General Motors Corp.: (Hughes Electronics) Fullerton, CA;
TRW Inc.: Redondo Beach, CA

Gen II Soldier System ATD

General Motors Corp.: (Hughes Electronics) Fullerton, CA

Ground-Based Common Sensor (GBCS)

FMC Corp.: (United Defense, LP) Santa Clara, CA

Guardrail/ Common Sensor (GR/CS)

TRW Inc.: Sunnyvale, CA

Hornet

General Motors Corp.: (Hughes Electronics) Fullerton, CA;
Opto-Electronics: Petaluma, CA

Integrated Family of Test Equipment (IFTE)

SAIC: San Diego, CA

Integrated System Control (ISYSCON)
BBN Systems and Technologies: Carson, CA

Javelin

Classic Composites Design: Irvine, CA;
Condor Pacific Industries: Westlake Village, CA;
Santa Barbara Research Center: Goleta, CA;
Sparta: San Diego, CA;
Viking Electronics: Chatsworth, CA

Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM)

CUBIC Defense Systems: San Diego, CA

Joint Tactical Ground Station (JTAGS)

Berg Systems: Carlsbad, CA;
Datron: Simi Valley, CA;
GenCorp Inc.: (Aerojet) Azusa, CA;
Silicon Graphics: Mountain View, CA

Kiowa Warrior

General Dynamics Corp.: Pomona, CA;
Litton Industries Inc.: Woodland Hills, CA;
McDonnell Douglas Corp.: Montovia, CA;
Northrop-Grumman Corp.: Hawthorne, CA

Line-of-Sight Antitank (LOSAT)

Cypress: San Jose, CA;
Dense-Pac: Garden Grove, CA;
FMC Corp.: (United Defense, LP) San Jose, CA;
LSI Logic Systems: Milpitas, CA;
Quantic Industries: Salinas, CA

M113 Family of Vehicles (FOV)

FMC Corp.: (United Defense, LP) San Jose, CA

Medium Extended Air Defense System (MEADS)

General Motors Corp.: (Hughes Electronics Team w/Raytheon) El Segundo, CA

Milstar (Army)

CommQuest: Enchinitas, CA;
Rantee Microwave & Electronics: Calabasas, CA;
Titan (Linkabit): San Diego, CA;
TRW Inc.: Redondo Beach, CA

Mobile Subscriber Equipment (MSE)

Gould: El Monte, CA

Mortar (120 mm)

ARMTEC: Coachella, CA;
FMS: Los Angeles, CA

MPIM/SRAW

GenCorp Inc.: (Aerojet) Sacramento;
Loral Corp.: (Loral Aeronutronic) Ranch Santa Margarita, CA

Multiple Launch Rocket System (MLRS)

Norris Industries: Los Angeles, CA

National Missile Defense (NMD)

General Motors Corp.: (Hughes Aircraft) El Segundo, CA;
Litton Industries Inc.: Woodland Hills, CA;
Lockheed Martin Corp.: (Lockheed Missiles & Space) Sunnyvale, CA;
McDonnell Douglas Corp.: Huntington Beach, CA;
Mission Research: San Diego, CA;
Photon Research Association: La Jolla, CA;
Rockwell International Corp.: Downey, CA;
Santa Barbara Research Center: Santa Barbara, CA;
TRW Inc.: Redondo Beach, CA;
Xontech: Huntington Beach, CA

Night Vision/Reconnaissance, Surveillance & Target Recognition (NV/RSTR)

Electro-Optical Sensors: Palo Alto, CA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA

Patriot

AMPEX: Sunnyvale, CA;
Explosive Technologies: Fairfield, CA;
General Motors Corp.: (Hughes Electronics) Newport Beach, CA;
Hi-Shear Technologies: Torrance, CA;
Kaiser Electroprecision: Irvine, CA;
Litton Industries Inc.: Woodland Hills, CA;
Loral Corp.: (Loral Vought Systems) San Diego, CA;
Rantec: Calabasas, CA;
Rockwell International Corp.: Anaheim, CA;
Signetics: Sunnyvale, CA;
Systron Donner: Sylmar, CA;
Teledyne Inc.: Mountain View, CA;
TRW Inc.: Campbell, CA;
Valley Enterprises: Sandy, UT;
Varian: Palo Alto, CA;
Zeta Laboratories: San Jose, CA

Satellite Communications (SATCOM)

Magnavox: Torrance, CA;
Titan: San Diego, CA;
Trivec Avant: Huntington Beach, CA

Second Generation Foward Looking Infrared (2d Gen FLIR)

General Motors Corp.: (Hughes Electronics) El Segundo, CA

Sense and Destroy Armor (SADARM)

GenCorp Inc.: (Aerojet) Azusa, CA;
LSI Logic: Fremont, CA;
Soladyne Division: San Diego, CA;
Teledyne Inc.: Los Angeles, CA

Soldier System

General Motors Corp.: (Hughes Aircraft) El Segundo, CA

Standardized Integrated Command Post System (SICPS)

FMC Corp.: (United Defense, LP) San Jose, CA

Stinger

Arral Industries: Ontario, CA;
General Motors Corp.: (Hughes Aircraft) Pomona, CA

Tank Main Gun Ammunition

ARMTEC: Coachella, CA

Theater High Altitude Area Defense (THAAD) System

Decom Systems: Carlsbad, CA;
Engine & Equipment Co.: Rancho Domingez, CA;
Hewlett Packard: Palo Alto, CA;
Litton Industries Inc.: Agoura Hills, CA;
Lockheed Martin Corp.: (Lockheed Missiles & Space) Sunnyvale, CA;
OCLI: Santa Rosa, CA;
Rocketdyne: Canoga Park, CA;
Silicon Graphics: Mountain View, CA;
TRW Inc.: Redondo Beach, CA;
United Technologies Corp.: San Jose, CA;
Westinghouse Electric Corp.: Sunnyvale, CA

Thermal Weapon Sight (TWS)

Coast Magnetics: Los Angeles, CA;
Cole Instruments: Santa Ana, CA;
Cristek Interconnects: Anaheim, CA;
General Motors Corp.: (Hughes Electronics) El Segundo, CA; (Hughes Microelectronics Division) Newport Beach, CA; (Packard Hughes Interconnects) Irvine, CA;
KB Tooling: Sun Valley, CA;
Phillips Semiconductors: Sunnyvale, CA;
Santa Barbara Research Center: Santa Barbara, CA

TOW Improved Target Acquisition System (ITAS)

General Motors Corp.: (Hughes Electronics) El Segundo, CA;
Mason Electric: San Francisco, CA;
Santa Barbara Research Center: Goleta, CA

TOW Weapon System

BW/IP: Van Nuys, CA;
GenCorp Inc.: (Aerojet) Azusa, CA;
General Motors Corp.: (Hughes Electronics) Goleta, CA;
Technology for Communications International: Fremont, CA

COLORADO

All Source Analysis System (ASAS)

CODAR: Boulder, CO;
Lockheed Martin Corp.: Littleton, CO

Comanche

ATMEL: Colorado Springs, CO;
Ball Aerospace: Broomfield, CO

Command and Control Vehicle (C2V)

AMI Industries: Colorado Springs, CO

Joint Tactical Ground Station (JTAGS)

GenCorp Inc.: (Aerojet) Colorado Springs, CO;
Loral Corp.: Boulder, CO

Kiowa Warrior

Ball Aerospace: Boulder, CO

Line-of-Sight Antitank (LOSAT)

Kaman Sciences: Colorado Springs, CO

Patriot

Coors Porcelain: Golden, CO;
Tecnetics: Boulder, CO

Satellite Communications (SATCOM)

Loral Corp.: Colorado Springs, CO;
Stanford Electronics: Colorado Springs, CO

Soldier System

CAPCO:

CONNECTICUT

Abrams Tank

Textron Inc.: (Textron Lycoming) Stratford, CT

Apache Longbow

United Technologies Corp.: (Hamilton Standard) Windsor Locks, CT

Army Tactical Missile System (Army TACMS)

Wyman-Gordon: Groton, CT

Black Hawk

United Technologies Corp.: (Sikorsky Aircraft) Stratford, CT

Brilliant Anti-Armor Submunition (BAT)

Pioneer Aerospace: Windsor Locks, CT

Comanche

Boeing Co.: (Team w/ UTC's Sikorsky Aircraft) Stratford, CT;
Boeing Sikorsky LHX Program Office: (Boeing Sikorsky LHX Program Office) Stratford, CT;
CECO: West Hartford, CT;
Fenn Manufacturing: Newington, CT;
Kaman Aerospace: Bloomfield, CT;
United Technologies Corp.: (Hamilton Standard) Windsor Locks, CT; (Sikorsky Aircraft Team w/Boeing) Stratford, CT

Force Provider

Dynamics Corp. of America: Bridgeport, CT

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

Raymond Engineering: Middletown, CT

Hercules

Carlyle Johnson Machine: Manchester, CT

Individual Ballistic Protection

Allied Signal Inc.: Hartford, CT

Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator

Textron Inc.: (Textron Lycoming) Stratford, CT

Line-of-Sight Antitank (LOSAT)

Allied Signal Inc.: Cheshire, CT

Mortar (120 mm)

Fermont: Bridgeport, CT

Multiple Launch Rocket System (MLRS)

United Technologies Corp.: Norwalk, CT

Patriot

Anderson Labs: Bloomfield, CT;
Raymond Engineering: Middleton, CT

Sense and Destroy Armor (SADARM)

Ensign Bickford Aerospace: Simsbury, CT;
Pioneer Aerospace: South Windsor, CT

Small Arms (M16A2 Rifle)

Colt's Manufacturing Co.: Hartford, CT

Small Arms (M4 Carbine)

Colt's Manufacturing Co.: Hartford, CT

Special Operations Aircraft (SOA)

Textron Inc.: (Textron Lycoming) Stratford, CT;
United Technologies Corp.: (Sikorsky Aircraft) Stratford, CT

Tactical Quiet Generators (TQG)

Fermont: Bridgeport, CT

TOW Weapon System

Allied Signal Inc.: Cheshire, CT

DELAWARE

Brilliant Anti-Armor Submunition (BAT)

ILC Dover: Fredrich, DE

Grizzly

E.I. Dupont Denemours: Wilmington, DE

Individual Ballistic Protection

E.I. Dupont Denemours: Wilmington, DE

Patriot

W.L. Gore Associates: Newark, DE

Protective Masks (M40 Series)

ILC Dover: Dover, DE

FLORIDA

Advanced Airdrop for Land Combat (AALC) ATD

Pioneer Aerospace: Melbourne, FL

Apache Longbow

Lockheed Martin Corp.: (JV w/ Westinghouse) Orlando, FL;
Smith Industries: Clearwater, FL;
Transistor Devices: Fort Walton Beach, FL

Army Tactical Missile System (Army TACMS)

Honeywell Inc.: Clearwater, FL

Avenger

DBA: Melbourne, FL

Black Hawk

Dayton-Granger: Fort Lauderdale, FL

Bradley Fighting Vehicle System (BFVS)

Metric Systems: Fort Walton Beach, FL

Brilliant Anti-Armor Submunition (BAT)

Group Technology: Tampa, FL

Close Combat Tactical Trainer (CCTT)

Pulau Electronics: Orlando, FL;
SAIC: Orlando, FL

Comanche

Aircraft Porous Media: Pinellas Park, FL;
Harris Corp.: Melbourne, FL;
Lockheed Martin Corp.: Orlando, FL;
Schwartz Electro-Optics: Orlando, FL;
VLSI: Clearwater, FL

Command and Control Vehicle (C2V)

Brunswick: Deland, FL

Crusader

Lockheed Martin Corp.: Orlando, FL

Digital Transmission Assemblages
Group Technologies: Tampa, FL;
Harris Corp.: Melbourne, FL

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
TDI: Fort Walton Beach, FL;

Javelin
Conax Florida: Tampa, FL;
ECC International: Orlando, FL;
Lockheed Martin Corp.: (JV w/ Texas Instruments) Ocala, FL; (JV w/ Texas Instruments) Orlando, FL;
Orlando Technologies: Shalimar, FL

Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM)
Northrop-Grumman Corp.: Melbourne, FL

Joint Tactical Terminal (JTT)
E-Systems: St. Petersburg, FL

Kiowa Warrior
Litton Industries Inc.: Orlando, FL

Laser HELLFIRE
Lockheed Martin Corp.: (JV w/ Westinghouse) Orlando, FL

Line-of-Sight Antitank (LOSAT)
DRI: Vero Beach, FL;
Graseby Infrared: Orlando, FL;
Loral Corp.: (Loral Vought Systems) Orlando, FL

Longbow HELLFIRE
Lockheed Martin Corp.: (JV w/ Westinghouse) Orlando, FL

Medium Extended Air Defense System (MEADS)
Lockheed Martin Corp.: Orlando, FL

Milstar (Army)
Harris Corp.: Melbourne, FL

National Missile Defense (NMD)
Honeywell Inc.: Clearwater, FL

Night Vision/Reconnaissance, Surveillance & Target Recognition (NV/RSTR)
Lockheed Martin Corp.: Orlando, FL

Nuclear, Biological, and Chemical (NBC) Detection
Brunswick: Deland, FL

Paladin
Honeywell Inc.: St. Petersburg, FL

Palletized Load System (PLS)
OTC Trailer: Bradenton, FL

Patriot
Aerospace Interconnect Systems: Titusville, FL;
Honeywell Inc.: Clearwater, FL;
Lockheed Martin Corp.: Orlando, FL;
Piezo Tech.: Orlando, FL

Satellite Communications (SATCOM)
Harris Corp.: Melbourne, FL

Sense and Destroy Armor (SADARM)
Harris Corp.: Melbourne, FL

Single Channel Ground and Airborne Radio System (SINCGARS)
General Dynamics Corp.: Tallahassee, FL;
Talla-Comm: Tallahassee, FL

Tank Main Gun Ammunition
Hercules Inc.: Clearwater, FL;
Olin Corp.: St. Petersburg, FL

Theater High Altitude Area Defense (THAAD) System
Honeywell Inc.: Orlando, FL

TOW Improved Target Acquisition System (ITAS)
Keltec Corp.: Ft Walton Beach, FL;
OMI: Melbourne, FL

TOW Weapon System
OMI: Melbourne, FL

Volcano
Brunswick: Deland, FL

GEORGIA

Battlefield Combat Identification
GTRI: Atlanta, GA

Black Hawk
Engineered Fabric: Rockmart, GA

Bradley Fighting Vehicle System (BFVS)
General Motors Corp.: (Hughes Electronics) La Grange, GA

Brilliant Anti-Armor Submunition (BAT)
Northrop-Grumman Corp.: Perry, GA

Javelin
Abex/NWL Aerospace: Dublin, GA

Laser HELLFIRE
Rockwell International Corp.: Duluth, GA

Line-of-Sight Antitank (LOSAT)
GEC-Marconi: Atlanta, GA

Mortar (120 mm)
Brockway Standard: Homerville, GA

Night Vision/Reconnaissance, Surveillance & Target Recognition (NV/RSTR)
AEL Defense: Alpharetta, GA

Patriot
Hartman Elec.: Atlanta, GA;
Murata Erie: Smyrna, GA;
RI Tac System Division: Atlanta, GA; Duluth, GA

Thermal Weapon Sight (TWS)
General Motors Corp.: (Hughes Georgia Inc.) LaGrange, GA

IDAHO

Abrams Tank
U.S. Deptartment of Energy: Idaho Falls, ID

Comanche
Micron Tech.: Boise, ID

Patriot
Quality Thermistor: Boise, ID

ILLINOIS

Abrams Tank
Rock Island Arsenal: Rock Island, IL

Avenger
CAI: Barrington, IL

Black Hawk
CR Industries: Elgin, IL

Bradley Fighting Vehicle System (BFVS)
Reynolds Metals: McCook, IL

Comanche
Cinch Connector: Elk Grove, IL;
MPC Products: Skokie, IL

Family Of Medium Tactical Vehicles (FMTV)
Caterpillar: Peoria, IL

Force Provider
IME: Duva, IL

Hercules
Miner Elastomer Products: Geneva, IL

Howitzer (M119A1)
Rock Island Arsenal: Rock Island, IL

Mortar (120 mm)
Olin Corp.: East Alton, IL

Patriot
Amco Engineering: Schiller Park, IL

Soldier System
Olin Corp.: East Alton, IL

Thermal Weapon Sight (TWS)
Otto Controls: Carpentersville, IL

Volcano
Nomura Enterprise: Rock Island, IL

Wolverine
Caterpillar: Peoria, IL

INDIANA

Abrams Tank
GMC-Allison: Indianapolis, IN

Advanced Field Artillery Tactical Data System (AFATDS)
Magnavox: Fort Wayne, IN

All Source Analysis System (ASAS)
Magnavox: Fort Wayne, IN

Army Data Distribution System (ADDS)
Bowmar Instrument: Fort Wayne, IN

Battlefield Combat Identification
Magnavox: Fort Wayne, IN

Battlefield Combat Identification System (BCIS)—Near Term
Magnavox: Fort Wayne, IN

Black Hawk
Howmet: LaPorte, IN

Bradley Fighting Vehicle System (BFVS)
Cummins: Columbus, IN

Comanche
Allied Signal Inc.: (Allied Signal/Rolls Royce/Allison Team) South Bend, IN;
CTS: West Lafayette, IN;
GMC-Allison: Indianapolis, IN

Command and Control Vehicle (C2V)
Cummings: Columbus, IN

Common Hardware/Software (CHS)
Magnavox: Fort Wayne, IN

Grizzly
GMC-Allison: Indianapolis, IN

Ground-Based Common Sensor (GBCS)
Magnavox: Fort Wayne, IN

High Mobility Multipurpose Wheeled Vehicle (HMMWV)
AM General: South Bend, IN;
ITT Corp.: Fort Wayne, IN

Javelin
Magnavox: Fort Wayne, IN

Kiowa Warrior
GMC-Allison: Indianapolis, IN;
Magnavox: Fort Wayne, IN

M113 Family of Vehicles (FOV)
GMC-Allison: Indianapolis, IN

Palletized Load System (PLS)
GMC-Allison: Indianapolis, IN

Patriot
Aluminum Forge: Indianapolis, IN

Satellite Communications (SATCOM)
Magnavox: Fort Wayne, IN

Single Channel Ground and Airborne Radio System (SINCGARS)
ITT Corp.: Fort Wayne, IN

Stinger
Magnavox: Fort Wayne, IN

IOWA

Army Data Distribution System (ADDS)
Rockwell International Corp.: (Defense Electronics Division) Cedar Rapids, IA

Black Hawk
Fansteel/Wellman Dynamics: Creston, IA

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)
Rockwell International Corp.: Cedar Rapids, IA

High Mobility Multipurpose Wheeled Vehicle (HMMWV)
Rockwell International Corp.: Cedar Rapids, IA

Hornet
Mason and Hanger: Burlington, IA

Javelin
Mason and Hanger: Middletown, IA

Kiowa Warrior
Rockwell International Corp.: Cedar Rapids, IA

NAVSTAR Global Positioning System (GPS)
Rockwell International Corp.: Cedar Rapids, IA

Patriot
B.E. Controls: Davenport, IA

Tank Main Gun Ammunition
Mason and Hangar: Middletown, IA

TOW Weapon System
Mason and Hanger: Middletown, IA

KANSAS

Avenger
Plastic Fabricating: Wichita, KS

Black Hawk
Plastic Fabricating: Wichita, KS

Guardrail/ Common Sensor (GR/CS)
Raytheon Co.: (Beech Aircraft) Wichita, KS

Patriot
Networks International: Lenexa, KS

KENTUCKY

Avenger
KECO Industries: Florence, KY

Deployable Medical Systems (DEPMEDS)
Outdoor Venture: Stearns, KY

Force Provider
Outdoor Venture: Stearns, KY

Mobile Subscriber Equipment (MSE)
KECO Industries: Florence, KY

Patriot
Irving B. Moore: Lexington, KY

LOUISIANA

Patriot
C.P.I.: Broussard, LA

MAINE

Patriot
Microwave Tech.: Raymond, ME

Small Arms (MK-19-3 40 mm Automatic Grenade Launcher)
Duchossois Industries: (Saco Defense) Saco, ME

MARYLAND

Airborne Reconnaissance Low (ARL)
California Microwave Inc.: Belcamp, MD

Airborne Standoff Minefield Detection System (ASTAMIDS)
Westinghouse Electric Corp.: Baltimore, MD

Apache Longbow
Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Baltimore, MD

Black Hawk
C.R. Daniels: Ellicott City, MD

Close Combat Tactical Trainer (CCTT)
Loral Corp.: Bethesda, MD

Comanche
Fairchild Space & Defense: Germantown, MD;
Westinghouse Electric Corp.: Baltimore, MD

Command and Control Vehicle (C2V)
Airflow: Frederick, MD

Crusader
Thiokol: Elkton, MD

Grizzly
AAI: Hunt Valley, MD

Hercules
DCA Foods: Jessup, MD

Joint Tactical Ground Station (JTAGS)
Gichner Systems Group:
Hunt Valley, MD

Kiowa Warrior
Allied Signal Inc.: Baltimore, MD

Laser HELLFIRE
Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Baltimore, MD

Longbow HELLFIRE
Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Baltimore, MD

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)
Westinghouse Electric Corp.:
Baltimore, MD

Nuclear, Biological, and Chemical (NBC) Detection
Battelle: Edgewood, MD;
Environment Technologies Group:
Baltimore, MD

Patriot
Allied Signal Inc.: Baltimore, MD;
Eagle Picher: Joplin, MO;
Hercules Inc.: Cumberland, MD;
Lockheed Martin Corp.: Baltimore, MD

Satellite Communications (SATCOM)
Lockheed Martin Corp.: Bethesda, MD

Small Arms (M9 9 mm Personal Defense Weapon)
Beretta USA: Accokeek, MD

Smoke Generator (XM56)
Robotic Systems Technology:
Westminster, MD

Standard Army Management Information Systems (STAMIS)
Loral Corp.: (Loral Federal Systems)
Bethesda, MD

Standardized Integrated Command Post System (SICPS)
Gichner Systems Group:
Hunt Valley, MD

Tactical Endurance Synthetic Aperture Radar (TESAR)
Westinghouse Electric Corp.:
Baltimore, MD

Theater High Altitude Area Defense (THAAD) System
Gichner Systems Group:
Hunt Valley, MD;
Thiokol: Elkton, MD;
Westinghouse Electric Corp.:
Baltimore, M

MASSACHUSETTS

Airborne Standoff Minefield Detection System (ASTAMIDS)
Raytheon Co.: Tewksbury, MA

All Source Analysis System (ASAS)
Lockheed Martin Corp.: Pittsfield, MA

Armored Gun System (AGS)
General Electric Co.: Pittsfield, MA

Avenger
Adams Russell: Amesbury, MA;
General Electric Co.: Pittsfield, MA

Battlefield Combat Identification
MIT: Cambridge, MA

Black Hawk
General Electric Co.: Lynn, MA

Bradley Fighting Vehicle System (BFVS)
LAU Technologies: Acton, MA;
Lockheed Martin Corp.: Pittsfield, MA

Brilliant Anti-Armor Submunition (BAT)
Analog Devices: Wilmington, MA

Circuit Switch/Message Switch
GTE Corp.: Taunton, MA

Close Combat Tactical Trainer (CCTT)
Dynamics Research: Wilmington, MA

Comanche
Loral Corp.: Lexington, MA;
Parker Hannifin: Woburn, MA;
Wyman-Gordon: North Grafton, MA

Command and Control Vehicle (C2V)
GTE Corp.: Taunton, MA;
Lockheed Martin Corp.: Pittsfield, MA

Common Hardware/Software (CHS)
GTE Corp.: Taunton, MA

Crusader
Lockheed Martin Corp.: Pittsfield, MA

Digital Transmission Assemblages
Raytheon Co.: Marlboro, MA

Extended Range Multiple Launch Rocket System (ER-MLRS)
Raytheon Co.: Tewksbury, MA

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
Diamond Antenna: Winchester, MA;
ENON: Pittsfield, MA;
Herly Industries: Woburn, MA;
MA/COM: Burlington, MA

Gen II Soldier System ATD
Arthur D. Little: Cambridge, MA

Hornet
Textron Inc.: (Textron Defense Systems) Wilmington, MA

Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator
General Electric Co.: Lynn, MA

Integrated System Control (ISYSCON)
ACSI: Burlington, MA;
GTE Corp.: Taunton, MA;
SofTech: Waltham, MA;
TRW Inc.: Cambridge, MA

Javelin
Loral Corp.: Lexington, MA

Line-of-Sight Antitank (LOSAT)
Haigh-Farr: Woburn, MA;
Loral Corp.: (Loral Vought Systems)
Cambridge, MA

Maneuver Control System (MCS)
GTE Corp.: Taunton, MA

Medium Extended Air Defense System (MEADS)
Raytheon Co.: (Team w/GMC's Hughes Electronics) Bedford, MA

Milstar (Army)
Raytheon Co.: Marlboro, MA

Mobile Subscriber Equipment (MSE)
GTE Corp.: Taunton, MA;
Raytheon Co.: Marlboro, MA

Mortar (120 mm)
Stocker & Yale: Beverly, MA

National Missile Defense (NMD)
Lincoln National Laboratory:
Lexington, MA;
Raytheon Co.: Wayland, MA

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)
Brunswick: Bedford, MA

Patriot
Haigh-Farr: Woburn, MA;
Lucas Epsco: Hopkinton, MA;
Micro Networks: Worcester, MA;
Raytheon Co.: Bedford, MA;
Varian Associates: Beverly, MA

Satellite Communications (SATCOM)
GTE Corp.: Taunton, MA

Tank Main Gun Ammunition
Nuclear Metals: Concord, MA

Theater High Altitude Area Defense (THAAD) System

CPI: Boston, MA;
Loral Corp.: Lexington, MA;
Raytheon Co.: Wayland, MA

Thermal Weapon Sight (TWS)

Fairview Machine: Topsfield, MA

MICHIGAN

Abrams Tank

General Dynamics Corp.: (Land Systems Division) Sterling Heights, MI; (Land Systems Division) Warren, MI;
Smith Industries: Grand Rapids, MI;
Textron Inc.: (Cadillac Gage) Warren, MI

Apache Longbow

Smith Industries: Grand Rapids, MI

Armored Gun System (AGS)

Detroit Diesel: Detroit, MI;
Textron Inc.: (Cadillac Gage) Warren, MI

Battlefield Combat Identification System (BCIS)—Near Term

General Dynamics Corp.: Sterling Heights, MI

Black Hawk

Aeroquip: Jackson, MI;
Howmet: Muskegon, MI

Comanche

Williams International: Walled Lake, MI

Crusader

Teledyne Inc.: Muskegon, MI

Grizzly

General Dynamics Corp.: Sterling Heights, MI;
Textron Inc.: (Cadillac Gage) Warren, MI

Hercules

LOC Performance Products: Plymouth, MI;
Teledyne Inc.: Muskegon, MI

High Mobility Multipurpose Wheeled Vehicle (HMMWV)

AM General: Livonia, MI;
General Motors Corp.: (General Motors Hydromatic) Ypsilanti, MI;
Motor Wheel: Lansing, MI

Line-of-Sight Antitank (LOSAT)

TRW Inc.: Troy, MI

M113 Family of Vehicles (FOV)

Detroit Diesel: Detroit, MI

Mobile Subscriber Equipment (MSE)

AM General: Livonia, MI

Nuclear, Biological, and Chemical Reconnaissance System (NBCRS)—FOX

General Dynamics Corp.: (Land Systems Division) Detroit, MI

Paladin

Detroit Diesel: Detroit, MI

Palletized Load System (PLS)

Detroit Diesel: Detroit, MI

Patriot

Kaydon: Muskegon, MI

Wolverine

General Dynamics Corp.: (Land Systems Division) Sterling Heights, MI

MINNESOTA

Armored Gun System (AGS)

FMC Corp.: (United Defense, LP) Minneapolis, MN

Army Tactical Missile System (Army TACMS)

Honeywell Inc.: Minneapolis, MN

Black Hawk

Rosemount: Burnsville, MN

Bradley Fighting Vehicle System (BFVS)

Alliant TechSystems Inc.: Minneapolis, MN

Comanche

Rosemount: Burnsville, MN

Crusader

Alliant TechSystems Inc.: Edina, MN;
FMC Corp.: (United Defense, LP) Minneapolis, MN

Gen II Soldier System ATD

Honeywell Inc.: Minneapolis, MN

Kiowa Warrior

Honeywell Inc.: Minneapolis, MN

Paladin

Alliant TechSystems Inc.: Edina, MN

Patriot

Honeywell Inc.: Minneapolis, MN;
Minco Products: Minneapolis, MN

Sense and Destroy Armor (SADARM)

Alliant TechSystems Inc.: Edina, MN

Stinger

Honeywell Inc.: Minneapolis, MN

Tank Main Gun Ammunition

Alliant TechSystems Inc.: Brooklyn Park, MN

TOW Weapon System

Quadion: Minneapolis, MN

MISSISSIPPI

Army Data Distribution System (ADDS)

General Motors Corp.: (Hughes Electronics) Forrest, MS

Black Hawk

Vickers: Jackson, MS

Comanche

Vickers: Jackson, MS

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

General Motors Corp.: (Hughes Electronics) Forrest, MS

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)

General Motors Corp.: (Hughes Electronics) Forrest, MS

Patriot

Metal Masters: Guntown, MS

MISSOURI

Army Tactical Missile System (Army TACMS)

Eagle Picher: Joplin, MO;
Hitchner: O'Fallon, MO

Brilliant Anti-Armor Submunition (BAT)

Eagle Picher: Joplin, MO

Comanche

McDonnell Douglas Corp.: St. Louis, MO

Force Provider

EASI: St. Louis, MO

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

Midcon Cable: Joplin, MO

Guardrail/ Common Sensor (GR/CS)

ESCO: St. Louis, MO

Heavy Equipment Transporter System (HETS)

Southwest Mobile Systems: St. Louis, MO

Hornet

Eagle Picher: Joplin, MO

Howitzer (M119A1)

Seiler Instrument: St. Louis, MO

Javelin

Eagle Picher: Joplin, MO

Line-of-Sight Antitank (LOSAT)

Eagle Picher: Joplin, MO

Patriot

Torotel: St. Louis, MO

Sense and Destroy Armor (SADARM)
Eagle Picher: Joplin, MO

Stinger
Eagle Picher: Joplin, MO

Tactical Quiet Generators (TQG)
Libby: Kansas City, MO

Theater High Altitude Area Defense (THAAD) System
Eagle Picher: Joplin, MO

TOW Weapon System
Eagle Picher: Joplin, MO

MONTANA

Volcano
S & K Electronics: Roman, MT

NEBRASKA

Line-of-Sight Antitank (LOSAT)
Brunswick: Lincoln, NE

Mobile Subscriber Equipment (MSE)
Telex Communications: Lincoln, NE

Patriot
Brunswick: Lincoln, NE;
Dale Electronics: Columbus, NE

NEVADA

TOW Weapon System
Smart Telecommunication: Verdi, NV

NEW HAMPSHIRE

Black Hawk
New Hampshire Ball Bearing:
Laconia, NH

Brilliant Anti-Armor Submunition (BAT)
Raytheon Co.: Manchester, NH

Comanche
Teledyne Inc.: Hudson, NH;
Teradyne: Nashua, NH

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)
Lockheed Martin Corp.: (Lockheed-Sanders Corp.) Nashua, NH

Ground-Based Common Sensor (GBCS)
Lockheed Martin Corp.: (Lockheed-Sanders Corp. JV w/AEL)
Hudson, NH

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)
Insight Technology: Manchester, NH;
Lockheed Martin Corp.: (Lockheed-Sanders Corp.) Nashua, NH

Theater High Altitude Area Defense (THAAD) System
DEC: Salem, NH;
Lockheed Martin Corp.: (Lockheed-Sanders Corp.) Nashua, NH

NEW JERSEY

Advanced Airdrop for Land Combat (AALC) ATD
SSE: Pennsauken, NJ

Advanced Field Artillery Tactical Data System (AFATDS)
Stonebrook Group: (MILTOPE Inc.)
Eatontown, NJ

Apache Longbow
Allied Signal Inc.: Eatontown, NJ;
Teterboro, NJ;
ITT Corp.: Nutley, NJ

Army Data Distribution System (ADDS)
GEC-Marconi: Totowa, NJ

Army Tactical Missile System (Army TACMS)
Simmonds Precision: Cedar Knolls, NJ

Avenger
Magnavox: Mahwah, NJ;
United Telecontrol Electronics:
Asbury Park, NJ
Battlefield Combat Identification
Booz-Allen Hamilton: Eatontown, NJ;
IITRI: Eatontown, NJ;
Mitre Corp.: Eatontown, NJ;
QUESTECH: Eatontown, NJ

Black Hawk
Allied Signal Inc.: Teterboro, NJ

Bradley Fighting Vehicle System (BFVS)
CHT Steel: Ventor, NJ

Comanche
Smith Industries: Florham Park, NJ

Digital Transmission Assemblages
Transistor Devices: Cedar Knolls, NJ

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
Waveline: West Caldwell, NJ

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)
GEC-Marconi: Wayne, NJ

Javelin
GEC-Marconi: Wayne, NJ

Kiowa Warrior
GEC-Marconi: Little Falls, NJ

Maneuver Control System (MCS)
ESC: Eatontown, NJ;
GTE Corp.: (Telos) Shrewsbury, NJ;
Mitre Corp.: Eatontown, NJ

Milstar (Army)
Lockheed Martin Corp.: Camden, NJ

Multiple Launch Rocket System (MLRS)
Allied Signal Inc.: Teterboro, NJ

National Missile Defense (NMD)
Kearfott: Wayne, NJ

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)
Magnavox: Mahwah, NJ

Nuclear, Biological, and Chemical (NBC) Detection
Nuclear Research: Dover, NJ

Patriot
GEC-Marconi: Frenchtown, NJ;
TRON-TECH: Eatontown, NJ

Radar Deception and Jamming (RD&J) ATD
Allied Signal Inc.: Teterboro, NJ;
ITT Corp.: Clifton, NJ

Soldier System
SARCO: Sterling, NJ

Special Operations Aircraft (SOA)
Allied Signal Inc.: Teterboro, NJ

Standard Army Management Information Systems (STAMIS)
Computer Sciences Corp.:
Moorestown, NJ

Stinger
United Telecontrol Electronics:
Asbury Park, NJ

NEW MEXICO

Avenger
General Motors Corp.: (Hughes Electronics) Farmington, NM

Circuit Switch/Message Switch
Laguna Industries: Albuquerque, NM

Comanche
Calculex: Las Cruces, NM

Digital Transmission Assemblages
Laguna Industries: Laguna Pueblo, NM

Kiowa Warrior
Honeywell Inc.: Albuquerque, NM

Line-of-Sight Antitank (LOSAT)
Cortez III: Alamagordo, NM

National Missile Defense (NMD)
Sandia National Laboratory:
Albequerque, NM

Patriot
Alliance Electronics: Scotsdale, NM

Stinger
General Motors Corp.: (Hughes Aircraft) Farmington, NM

Tactical Endurance Synthetic Aperture Radar (TESAR)
Westinghouse Electric Corp.: Albequerque, NM

NEW YORK

Abrams Tank
Watervliet Arsenal: Watervliet, NY

Apache Longbow
General Electric Co.: Binghamton, NY

Armored Gun System (AGS)
Watervliet Arsenal: Watervliet, NY

Army Tactical Missile System (Army TACMS)
Grey Syracuse: Syracuse, NY

Bistatic Radar for Weapons Location ATD
Syracuse Research: Syracuse, NY

Black Hawk
Precision Gear: Corona, NY

Brilliant Anti-Armor Submunition (BAT)
Brentronics: Comack, NY

Comanche
Applied Amphenol: Sidney, NY;
Automation Software: Stony Brook, NY;
CAE-Link: Binghamton, NY;
Moog: East Aurora, NY;
Northrop-Grumman Corp.: Bethpage, NY;
Stonebrook Group: (MILTOPE Inc.) Melville, NY

Common Hardware/Software (CHS)
Stonebrook Group: (MILTOPE Inc.) Melville, NY

Deployable Medical Systems (DEPMEDS)
Eastman Kodak: Rochester, NY

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
Hazeltine: Greenlawn, NY;
Rotron: Woodstock, NY

Grizzly
Deanco: Ithaca, NY;
General Microwave: Amityville, NY

Ground-Based Common Sensor (GBCS)
IBM Corp.: Owego, NY

Guardrail/ Common Sensor (GR/CS)
IBM Corp.: Owego, NY

High Mobility Multipurpose Wheeled Vehicle (HMMWV)
American Transcoil: Richmond Hill, NY;
Gleason Gear: Rochester, NY;
New Venture Gear: Schenectady, NY

Howitzer (M119A1)
Watervliet Arsenal: Watervliet, NY

Integrated Family of Test Equipment (IFTE)
Northrop-Grumman Corp.: Great River, NY

Javelin
Carleton Technologies: Orchard Park, NY

Kiowa Warrior
Teleponics: Huntington, NY

Medium Extended Air Defense System (MEADS)
Lockheed Martin Corp.: Syracuse, NY

Mortar (120 mm)
Watervliet Arsenal: Watervliet, NY

Patriot
RHG Electronics Lab: Deer Park, NY;
Sensitron: Deer Park, NY

Soldier System
Decilog: Melville, NY

Special Operations Aircraft (SOA)
CAE Link: Binghamton, NY;
Loral Corp.: Owego, NY

Stinger
Bausch & Lomb: Rochester, NY;
Lourdes: Hauppauge, NY;
Phototronics: Rome, NY

Theater High Altitude Area Defense (THAAD) System
Anaren: Syracuse, NY

Thermal Weapon Sight (TWS)
Aeroflex Laboratories: Plainview, NY

TOW Improved Target Acquisition System (ITAS)
IST Corp.: Horseheads, NY;
Loral Corp.: Syosset, NY

NORTH CAROLINA

Black Hawk
Walter Kidde Aerospace: Wilson, NC

Line-of-Sight Antitank (LOSAT)
General Research: Research Park, NC

Patriot
Analog Devices: Greensboro, NC;
Arrow Electronics: Winston-Salem, NC

NORTH DAKOTA

Bradley Fighting Vehicle System (BFVS)
Sioux MFG: Fort Totten, ND

OHIO

Abrams Tank
General Dynamics Corp.: (Land Systems Division) Lima, OH

Army Tactical Missile System (Army TACMS)
KDI: Cincinnati, OH;
Piqua: Piqua, OH

Battlefield Distributed Simulation - Developmental
Loral Corp.: Akron, OH

Black Hawk
FL Aerospace: Columbus, OH

Bradley Fighting Vehicle System (BFVS)
ALCOA Forge: Cleveland, OH

Comanche
Sunstrand: Lima, OH

Deployable Medical Systems (DEPMEDS)
Picker: Cleveland, OH

Extended Range Multiple Launch Rocket System (ER-MLRS)
KDI: Cincinnati, OH

Gen II Soldier System ATD
Battelle: Columbus, OH

Grizzly
Gradall: New Philadelphia, OH

Hercules
Goodyear: St. Mary's, OH

High Mobility Multipurpose Wheeled Vehicle (HMMWV)
General Motors Corp.: (General Motors Diesel) Moraine,OH;
Goodyear: Akron, OH;
O'Gara, Hess and Eisenhardt: Fairfield, OH

Patriot
Deleval: Cleveland, OH;
KDI: Cincinnati, OH;
Lucas Aerospace: Aurora, OH;
West Milton Precision: Vandalia, OH

Satellite Communications (SATCOM)
Cincinnati Electronics: Cincinnati, OH

Stinger
Cincinnati Electronics: Cincinnati, OH

TOW Weapon System
American Steel & Wire: Cleveland, OH

OKLAHOMA

Avenger
Cherokee Nation: Stillwell, OK

Combat Service Support Control System (CSSCS)
LB&M Associates: Lawton, OK

Hercules
Barden Carco Gearmatic: Broken Arrow, OK

Patriot
Cherokee Nation: Stillwell, OK

OREGON

Black Hawk
PCC: Portland, OR

Patriot
Oeco: Milwaukee, OR

PENNSYLVANIA

Abrams Tank
General Dynamics Corp.: (Land Systems Division) Scranton, PA

Avenger
Letterkenny Army Depot: Letterkenny, PA

Black Hawk
Northrop-Grumman Corp.: Fleetville, PA

Bradley Fighting Vehicle System (BFVS)
FMC Corp.: (United Defense, LP) York, PA

Close Combat Tactical Trainer (CCTT)
ECC International: Wayne, PA

Comanche
Advance Intercon: Mill Hall, PA;
Timken: Fort Washington, PA

Command and Control Vehicle (C2V)
Gichner Systems Group: Dallastown, PA

Deployable Medical Systems (DEPMEDS)
Airtacs: Red Lion, PA;
Engineered Systems: Trappe, PA

Digital Transmission Assemblages
Gichner Systems Group: Dallastown, PA;
Tobyhanna Army Depot: Tobyhanna, PA

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
Gichner Systems Group: Dallastown, PA;
UNISYS Corp.: King of Prussia, PA

Gen II Soldier System ATD
GENTEX: Carbondale, PA

Grizzly
FMC Corp.: (United Defense, LP) York, PA;
ITS: Philadelphia, PA

Hercules
FMC Corp.: (United Defense, LP) York, PA

Line-of-Sight Antitank (LOSAT)
APD Cryogenics: Allentown, PA;
Aydin: Newton, PA;
Microcom: Warminster, PA

Mobile Subscriber Equipment (MSE)
Magnavox: Philadelphia, PA

Mortar (120 mm)
Duchossois Industries: Scranton, PA;
Loral Corp.: Archibald, PA;
Scranton Army Ammunition Plant: Scranton, PA

Paladin
FMC Corp.: (United Defense, LP) Letterkenny, PA; (United Defense, LP) York, PA;
Sechan Electronics: Littiz, PA

Palletized Load System (PLS)
Grove Crane: Shady Grove, PA

Patriot
Gichner Systems Group: Dallastown, PA;
GTE Corp.: Towanda, PA;
Litton Industries Inc.: Clifton Heights, PA

Protective Masks (M40 Series)
Mine Safety Appliance: Pittsburgh, PA

Satellite Communications (SATCOM)
General Electric Co.: Valley Forge, PA

Sense and Destroy Armor (SADARM)
Phoenix Microwave: Telford, PA

Special Operations Aircraft (SOA)
Boeing Co.: (Boeing Helicopter) Philadelphia, PA

Standardized Integrated Command Post System (SICPS)
Letterkenny Army Depot: Letterkenny, PA;
Tobyhanna Army Depot: Tobyhanna, PA

Tank Main Gun Ammunition
Bulova: Lancaster, PA;
Microcom: Philadelphia, PA;
MVI: Pittsburgh, PA

Theater High Altitude Area Defense (THAAD) System
Aydin Vector: Newton, PA;
Gichner Systems Group: Dallastown, PA

TOW Weapon System
Kaiser Aluminum: Erie, PA;
Loral Corp.: Archibald, PA

RHODE ISLAND

Black Hawk
Sentel: Providence, RI

Patriot
Jade Manufacturing: Warwick, RI

SOUTH CAROLINA

Armored Gun System (AGS)
FMC Corp.: (United Defense, LP) Aiken, SC

Avenger
Kaydon: Sumter, SC

Bradley Fighting Vehicle System (BFVS)
FMC Corp.: (United Defense, LP) Aiken, SC

Command and Control Vehicle (C2V)
FMC Corp.: (United Defense, LP) Aiken, SC

Mobile Subscriber Equipment (MSE)
FN Manufacturing: Columbia, SC

Patriot
Kemet: Greenville, SC;
Woven Electronics: Simpsonville, SC

Small Arms (M16A2 Rifle)
FN Manufacturing: Columbia, SC

Small Arms (M249 Squad Automatic Weapon)
FN Manufacturing: Columbia, SC

TENNESSEE

Army Tactical Missile System (Army TACMS)
Lockheed Martin Corp.: Milan, TN

Avenger
Boeing Co.: Oakridge, TN

Crusader
Olin Corp.: Charleston, TN

Mortar (120 mm)
MMOS Milan Army Ammunition Plant: Milan, TN;
United Ammunition Container: Milan, TN

National Missile Defense (NMD)
Arnold Engineering Development Ctr.: Tullahoma, TN

Patriot

Precision Cable of Tennessee: Gallatin, TN

Standardized Integrated Command Post System (SICPS)

Camel: Knoxville, TN

Tank Main Gun Ammunition

GenCorp Inc.: (Aerojet) Jonesboro, TN

TEXAS

Abrams Tank

Texas Instruments Inc.: Dallas, TX

Advanced Quick Fix (AQF)

Chrysler Corp.: (Electrospace Systems Inc.) Richardson, TX

Apache Longbow

Westinghouse Electric Corp.: (JV w/ Lockheed Martin) Dallas, TX

Army Tactical Missile System (Army TACMS)

Chemical Dynamics: Weatherford, TX;
Hercules Inc.: McGregor, TX;
Loral Corp.: (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Horizon City, TX;
Texas Metal Spinning: Fort Worth, TX

Avenger

ATI: Fort Worth, TX;
Texas Instruments Inc.: Dallas, TX;
Texstar: Grand Prairie, TX

Black Hawk

Cameron Forge: Houston, TX

Bradley Fighting Vehicle System (BFVS)

Texas Instruments Inc.: Dallas, TX

Brilliant Anti-Armor Submunition (BAT)

Texas Instruments Inc.: Midland, TX

Comanche

Boeing Co.: Midlothian, TX;
Hexcell: Arlington, TX

Command and Control Vehicle (C2V)

Antenna Products: Mineral Wells, TX

Driver's Vision Enhancer (DVE)

Outsource Solution Inc.: McKinney, TX;
Texas Instruments Inc.: Dallas, TX

Extended Range Multiple Launch Rocket System (ER-MLRS)

Loral Corp.: (Loral Vought Systems) Dallas, TX

Family Of Medium Tactical Vehicles (FMTV)

Stewart & Stevenson Services: Houston, TX

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

KINTEC: Dallas, T

Ground-Based Common Sensor (GBCS)

Chrysler Corp.: (Electrospace Systems Inc.) Richardson, TX

High Mobility Artillery Rocket System (HIMARS)

Loral Corp.: (Loral Vought Systems) Dallas, TX

High Mobility Multipurpose Wheeled Vehicle (HMMWV)

Texas Instruments Inc.: Dallas, TX

Hornet

Texas Instruments Inc.: Dallas, TX

Hunter Sensor Suite ATD

Texas Instruments Inc.: Dallas, TX

Hydra 70 Rocket System

BEI Defense Systems: Euless, TX

Javelin

Texas Instruments Inc.: (JV w/ Lockheed Martin) Lewisville, TX;
Texas Instruments/Lockheed Martin Javelin Joint Venture: (Texas Instruments/Lockheed Martin Javelin Joint Venture) Lewisville, TX

Joint Tactical Ground Station (JTAGS)

Advanced Programming Concepts: Pfluegerville, TX;
Response Service and Innovation: Austin, TX

Kiowa Warrior

BEI Defense Systems: Fort Worth, TX;
Textron Inc.: (Bell Helicopter) Fort Worth TX

Line-of-Sight Antitank (LOSAT)

Loral Corp.: (Loral Vought Systems) Dallas, TX;
Texas Instruments Inc.: Dallas, TX

Milstar (Army)

Rockwell International Corp.: Richardson, TX

Mortar (120 mm)

Red River Army Depot: Texarkana, TX

Multiple Launch Rocket System (MLRS)

Loral Corp.: (Loral Vought Systems) Dallas TX

National Missile Defense (NMD)

Loral Corp.: Dallas, TX

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)

IMO (Optic-Electronic): Dallas, TX;
Texas Instruments Inc.: Dallas, TX

Patriot

Loral Corp.: (Loral Vought Systems) Dallas, TX;
Rockwell International Corp.: Dallas, TX

Second Generation Foward Looking Infrared (2d Gen FLIR)

Texas Instruments Inc.: McKinney, TX

Soldier System

Texas Instruments Inc.: San Antonio, TX

Special Operations Aircraft (SOA)

Texas Instruments Inc.: McKinney, TX

Theater High Altitude Area Defense (THAAD) System

Loral Corp.: Dallas, TX;
Texas Instruments Inc.: Dallas, TX

Thermal Weapon Sight (TWS)

Marlow Industries Inc.: Dallas, TX

TOW Improved Target Acquisition System (ITAS)

IMO (VARO): Garland, TX;
Texas Instruments Inc.: McKinney, TX

TOW Weapon System

Texas Instruments Inc.: Dallas, TX;
Varo Industries: Garland, TX

Wolverine

Stewart and Stevenson Services: Houston, TX

UTAH

Apache Longbow

ACME: West Jordan, UT

Bradley Fighting Vehicle System (BFVS)

Teleflex Defense Systems: Spanish Fort, UT

Close Combat Tactical Trainer (CCTT)

Evans & Sutherland: Salt Lake City, UT

Comanche

Hercules Inc.: Ogden, UT

Guardrail/ Common Sensor (GR/CS)

UNISYS Corp.: Salt Lake City, UT

Hydra 70 Rocket System

Thiokol: Brigham City, UT

Line-of-Sight Antitank (LOSAT)

EDO: Salt Lake City, UT

Patriot

EDO: Salt Lake City, UT;
Fibertek: Springville, UT

VERMONT

Avenger
General Electric Co.: Burlington, VT

Black Hawk
Simmonds Precision Products: Vergennes, VT

Comanche
General Electric Co.: Burlington, VT;
Lockheed Martin Corp.: Burlington, VT;
Polhemus: Colchester, VT

Crusader
Lockheed Martin Corp.: Burlington, VT

Mortar (120 mm)
Lockheed Martin Corp.: Burlington, VT

Patriot
G.S. Precision: Brattleboro, VT

VIRGINIA

All Source Analysis System (ASAS)
Carlyle Partners: (BDM International Inc.) McLean, VA

Army Global Command and Control System (AGCCS)
Lockheed Martin Corp.: Springfield, VA

Army Tactical Missile System (Army TACMS)
Atlantic Research: Gainesville, VA

Avenger
Electro-Tech: Blacksburg, VA;

Battlefield Combat Identification
AMELEX: Falls Church, VA;
Colsa: Falls Church, VA;
E-OIR Measurements: Fort Belvoir, VA;
QUESTECH: Falls Church, VA

Bradley Fighting Vehicle System (BFVS)
FMC Corp.: (United Defense, LP) Arlington, VA

Close Combat Tactical Trainer (CCTT)
Loral Corp.: Manasass, VA

Comanche
Liege: Arlington, VA

Deployable Medical Systems (DEPMEDS)
Brunswick: Marion, VA

Enhanced Trackwolf (ET)
Engineering Research Associates: Vienna, VA

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)
Brunswick: Marion, VA;
Electro-Tech: Blacksburg, VA

Grizzly
Jorge Scientific: Arlington, VA

Hydra 70 Rocket System
Hercules Inc.: Radford, VA;
Radford Army Ammunition Plant: Radford, VA

Line-of-Sight Antitank (LOSAT)
Atlantic Research: Gainesville, VA;
Booz-Allen Hamilton: McLean, VA

Mortar (120 mm)
Hercules Inc.: Radford, VA;
Radford Army Ammunition Plant: Radford, VA

Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA)
ITT Corp.: Roanoke, VA

Patriot
Atlantic Research: Gainesville, VA;
Audio: Fairfax, VA;
Brunswick: Marion, VA;
Ovenair: Marion, VA

Standard Army Management Information Systems (STAMIS)
PRC, Inc.: McLean, VA

Standardized Integrated Command Post System (SICPS)
Brunswick: Marion, VA

Stinger
Atlantic Research: Gainesville, VA

Tank Main Gun Ammunition
Hercules Inc.: Radford, VA;
Radford Army Ammunition Plant: Radford, VA

Theater High Altitude Area Defense (THAAD) System
EDAC: Fredericksburg, VA

TOW Weapon System
Hercules Inc.: Radford, VA

WASHINGTON

Avenger
Renton Coil: Renton, WA

Black Hawk
ELDEC: Bothell, WA

Brilliant Anti-Armor Submunition (BAT)
Interpoint: Redmond, WA;
Rocket Research: Redmond, WA

Comanche
Boeing Co.: Seattle, WA;
ELDEC: Seattle, WA;
Korry Electronic: Seattle, WA

Command and Control Vehicle (C2V)
RDA: Tacoma, WA

Forward Area Air Defense Command, Control and Intelligence (FAADC2I)
R&D Associates: Seattle, WA

Grizzly
Korry Electronic: Seattle, WA

Line-of-Sight Antitank (LOSAT)
Loral Corp.: (Loral Vought Systems) Bellevue, WA

National Missile Defense (NMD)
Boeing Co.: Seattle, WA

Patriot
Sunstrand: Redmond, WA

Theater High Altitude Area Defense (THAAD) System
Rocket Research: Redmond, WA

TOW Weapon System
BP Chemical: Auburn, WA

WEST VIRGINIA

Hornet
Hercules Inc.: Rocket City, WV

Javelin
Hercules Inc.: Rocket City, WV

Line-of-Sight Antitank (LOSAT)
Hercules Inc.: Rocket City, WV

Patriot
Adel: Newell, WV

Tank Main Gun Ammunition
Hercules Inc.: Rocket City, WV

WISCONSIN

Army Tactical Missile System (Army TACMS)
Spincraft: New Berlin, WI;
Wisconsin Invest Cast: Watertown, WI

Avenger
Milwaukee Gear: Milwaukee, WI

Black Hawk
Astronautics of America: Milwaukee, WI

Deployable Medical Systems (DEPMEDS)
BIOCHEM International: Waukesha, WI

Family Of Medium Tactical Vehicles (FMTV)
Rockwell International Corp.: Oshkosh, WI

Heavy Equipment Transporter System (HETS)

Oshkosh Truck Corp.: Oshkosh, WI

Hercules

Harnischfeger P&H: Oak Creek, WI;
Maynard Steel Casing: Milwaukee, WI;
Twin Disc: Racine, WI

Mortar (120 mm)

Accudyne: Janesville, WI

Palletized Load System (PLS)

CM Automotive: Oshkosh, WI;
Oshkosh Truck Corp.: Oshkosh, WI;
Rockwell International Corp.: Oshkosh, WI;
Steeltech: Milwaukee, WI

Patriot

Airsan: Milwuakee, WI

Theater High Altitude Area Defense (THAAD) System

Oshkosh Truck Corp.: Oshkosh, WI

OTHER COUNTRIES

CANADA

Armored Gun System (AGS)

Computing Devices: Ottawa, ON Canada

Mortar (120 mm)

General Motors Corp.: (Hughes-Leitz) Canada

Palletized Load System (PLS)

Michelin: Nova Scotia, Canada

Rail Cars

AMF Technotransport Inc.: Montreal, Canada

Theater High Altitude Area Defense (THAAD) System

EBCO: Vancouver, BC, Canada

TOW Improved Target Acquisition System (ITAS)

DY4 Systems: Ontario, Canada

TOW Weapon System

DY4 Systems: Ontario, Canada

FRANCE

Medium Extended Air Defense System (MEADS)

Aerospatiele: France;
Thomson: France

Mobile Subscriber Equipment (MSE)

Thomson CSF: Laval, Cholet & Toulouse, France

GERMANY

Medium Extended Air Defense System (MEADS)

Deutsche Aerospace: Germany;
Siemens: Germany

Nuclear, Biological, and Chemical Reconnaissance System (NBCRS)—FOX

Thyssen Henschel: Germany

Thermal Weapon Sight (TWS)

Eltro GmbH: Heidelberg, Germany

Wolverine

MAN GHH: Dusseldorf, Germany

ISRAEL

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS)

TAMAM: Yeoud, Israel

ITALY

Medium Extended Air Defense System (MEADS)

Alenia: Italy

SWEDEN

Mobile Subscriber Equipment (MSE)

Ericsson Radio Systems AB: Molndal, Sweden;

UNITED KINGDOM

Nuclear, Biological, and Chemical (NBC) Detection

Graseby Ionics: Watford, Herts, United Kingdom

Thermal Weapon Sight (TWS)

PRP Optoelectronics: Northamptonshire, United Kingdom

TOW Weapon System

Thorn EMI: Middlesex, United Kingdom

Top 100 Army Contractors By Rank

1: Raytheon Co.

Airborne Standoff Minefield Detection System (ASTAMIDS): (Raytheon Co.) Tewksbury, MA;
Brilliant Anti-Armor Submunition (BAT): (Raytheon Co.) Manchester, NH;
Corps SAM (Concept Study Contractors): (Team w/GMC's Hughes Electronics) Bedford, MA;
Digital Transmission Assemblages: (Raytheon Co.) Marlboro, MA;
Extended Range Multiple Launch Rocket System (ER-MLRS): (Raytheon Co.) Tewksbury, MA;
Guardrail Common Sensor (GRCS): (Beech Aircraft) Wichita, KS;
Milstar—Army: (Raytheon Co.) Marlboro, MA;
Mobile Subscriber Equipment (MSE): (Raytheon Co.) Marlboro, MA;
National Missile Defense (NMD): (Raytheon Co.) Wayland, MA;
Patriot: (Raytheon Co.) Bedford, MA;
Theater High Altitude Area Defense (THAAD) System: (Raytheon Co.) Wayland, MA

2: General Dynamics Corp.

Abrams Tank: (Land Systems Division) Sterling Heights, MI; (Land Systems Division) Warren, MI; (Land Systems Division) Lima, OH; (Land Systems Division) Scranton, PA;
Battlefield Combat Identification System (BCIS)—Near Term: (General Dynamics Corp.) Sterling Heights, MI;
Grizzly: (General Dynamics Corp.) Sterling Heights, MI;
Kiowa Warrior: (General Dynamics Corp.) Pomona, CA;
Nuclear, Biological, and Chemical Reconnaissance System (NBCRS)—FOX: (Land Systems Division) Detroit, MI;
Single Channel Ground and Airborne Radio System (SINCGARS): (General Dynamics Corp.) Tallahassee, FL;
Wolverine: (Land Systems Division) Sterling Heights, MI

3: Lockheed Martin Corp.

All Source Analysis System (ASAS): (Lockheed Martin Corp.) Littleton, CO; (Lockheed Martin Corp.) Pittsfield, MA;
Apache Longbow: (JV w/ Westinghouse) Orlando, FL;
Army Global Command and Control System (AGCCS): (Lockheed Martin Corp.) Springfield, VA;
Army Tactical Missile System (Army TACMS): (Lockheed Martin Corp.) Milan, TN;
Bradley Fighting Vehicle System (BFVS): (Lockheed Martin Corp.) Pittsfield, MA;
Comanche: (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Burlington, VT;
Command and Control Vehicle (C2V): (Lockheed Martin Corp.) Pittsfield, MA;
Crusader: (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Pittsfield, MA; (Lockheed Martin Corp.) Burlington, VT;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (Lockheed-Sanders Corp.) Nashua, NH;
Ground-Based Common Sensor (GBCS): (Lockheed-Sanders Corp. JV w/AEL) Hudson, NH;
Javelin: (JV w/ Texas Instruments) Troy, AL; (JV w/ Texas Instruments) Ocala, FL; (JV w/ Texas Instruments) Orlando, FL;
Laser HELLFIRE: (JV w/ Westinghouse) Orlando, FL;
Longbow HELLFIRE: (JV w/ Westinghouse) Orlando, FL;
Milstar—Army: (Lockheed Martin Corp.) Camden, NJ;
MEADS (Concept Study Contractors): (Lockheed Martin Corp.) Huntsville, AL; (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Syracuse, NY;
Mortar (120 mm): (Lockheed Martin Corp.) Burlington, VT;
National Missile Defense (NMD): (Lockheed Missiles & Space) Sunnyvale, CA;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Lockheed Martin Corp.) Orlando, FL; (Lockheed-Sanders Corp.) Nashua, NH;
Patriot: (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Baltimore, MD;
Satellite Communications (SATCOM): (Lockheed Martin Corp.) Bethesda, MD;
Theater High Altitude Area Defense (THAAD) System: (Lockheed Missiles & Space) Huntsville, AL; (Lockheed Missiles & Space) Sunnyvale, CA; (Lockheed-Sanders Corp.) Nashua, NH

4: General Motors Corp.

Abrams Tank: (Hughes Electronics) Los Angeles, CA;
Armored Gun System (AGS): (Hughes Electronics) El Segundo, CA;
Army Data Distribution System (ADDS): (Hughes Electronics) El Segundo, CA; (Hughes Electronics) Forrest, MS;
Avenger: (Hughes Electronics) Tucson, AZ; (Hughes Electronics) Pomona, CA; (Hughes Electronics) Farmington, NM;
Bradley Fighting Vehicle System (BFVS): (Hughes Electronics) Manhattan Beach, CA; (Hughes Electronics) La Grange, GA;
Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS): (Hughes Electronics) El Segundo, CA; (Hughes Electronics) Forrest, MS;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (Hughes Electronics) Fullerton, CA; (Hughes Electronics) Forrest, MS;
Gen II Soldier System ATD: (Hughes Electronics) Fullerton, CA;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (General Motors Diesel) Moraine,OH; (General Motors Hydromatic) Ypsilanti, MI;
Hornet: (Hughes Electronics) Fullerton, CA;
MEADS (Concept Study Contractors): (Hughes Electronics Team w/Raytheon) El Segundo, CA;
Mortar (120 mm): (Hughes-Leitz) Canada;
National Missile Defense (NMD): (Hughes Aircraft) Tucson, AZ; (Hughes Aircraft) El Segundo, CA;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Hughes Electronics) El Segundo, CA;
Patriot: (Hughes Electronics) Newport Beach, CA;
Second Generation Foward Looking Infrared (2d Gen FLIR): (Hughes Electronics) El Segundo, CA;
Soldier System: (Hughes Aircraft) El Segundo, CA;
Special Operations Aircraft (SOA): (Hughes Electronics) Mesa, AZ;
Stinger: (Hughes Aircraft) Tucson, AZ,; (Hughes Aircraft) Pomona, CA; (Hughes Aircraft) Farmington, NM;
Thermal Weapon Sight (TWS): (Hughes Electronics) El Segundo, CA; (Hughes Georgia Inc.) LaGrange, GA; (Hughes Leitz Optical Technologies) Midland, ON; (Hughes Microelectronics Division) Newport Beach, CA; (Packard Hughes Interconnects) Irvine, CA;
TOW Improved Target Acquisition System (ITAS): (Hughes Electronics) El Segundo, CA;
TOW Weapon System: (Hughes Electronics) Tucson, AZ; (Hughes Electronics) Goleta, CA

5: Loral Corp.

Advanced Integrated Collective Protection System (AICPS): (Loral Librascope) Glendale, CA;
All Source Analysis System (ASAS): (Loral Corp.) San Jose, CA;
Army Tactical Missile System (Army TACMS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Horizon City, TX;
Battlefield Distributed Simulation—Developmental: (Loral Corp.) Akron, OH;

NOTE: *Prime contractors are identified by italicized text*

Close Combat Tactical Trainer (CCTT): (Loral Corp.) Bethesda, MD; (Loral Corp.) Manasass, VA;
Comanche: (Loral Corp.) Lexington, MA;
Command and Control Vehicle (C2V): (Western Development Labs) San Jose, CA;
Extended Range Multiple Launch Rocket System (ER-MLRS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX;
High Mobility Artillery Rocket System (HIMARS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX;
Javelin: (Loral Corp.) Lexington, MA;
Joint Tactical Ground Station (JTAGS): (Loral Corp.) Boulder, CO;
Line-of-Sight Antitank (LOSAT): (Loral Vought Systems) Orlando, FL; (Loral Vought Systems) Cambridge, MA; (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Bellevue, WA;
Mortar (120 mm): (Loral Corp.) Archibald, PA;
MPIM/SRAW: (Loral Aeronutronic) Ranch Santa Margarita, CA;
Multiple Launch Rocket System (MLRS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas TX;
National Missile Defense (NMD): (Loral Corp.) Dallas, TX;
Patriot: (Loral Vought Systems) San Diego, CA; (Loral Vought Systems) Dallas, TX;
Satellite Communications (SATCOM): (Loral Corp.) Colorado Springs, CO;
Special Operations Aircraft (SOA): (Loral Corp.) Owego, NY;
Standard Army Management Information Systems (STAMIS): (Loral Federal Systems) Bethesda, MD;
Theater High Altitude Area Defense (THAAD) System: (Loral Corp.) Lexington, MA; (Loral Corp.) Dallas, TX;
TOW Improved Target Acquisition System (ITAS): (Loral Corp.) Syosset, NY;
TOW Weapon System: (Loral Corp.) Archibald, PA

6: SAIC

Advanced Field Artillery Tactical Data System (AFATDS): (SAIC) San Diego, CA;
Close Combat Tactical Trainer (CCTT): (SAIC) Orlando, FL;

Common Hardware/Software (CHS): (SAIC) San Diego, CA;

Driver's Vision Enhancer (DVE): (SAIC) San Diego, CA;
Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS): (SAIC) San Diego, CA;
Integrated Family of Test Equipment (IFTE): (SAIC) San Diego, CA

7: GTE Corp.

Circuit Switch/Message Switch: (GTE Corp.) Taunton, MA;
Command and Control Vehicle (C2V): (GTE Corp.) Taunton, MA;
Common Hardware/Software (CHS): (GTE Corp.) Taunton, MA;
Integrated System Control (ISYSCON): (GTE Corp.) Taunton, MA;
Maneuver Control System (MCS): (GTE Corp.) Taunton, MA; (Telos) Shrewsbury, NJ;
Mobile Subscriber Equipment (MSE): (GTE Corp.) Taunton, MA;
Patriot: (GTE Corp.) Towanda, PA;
Satellite Communications (SATCOM): (GTE Corp.) Taunton, MA

8: Brand Name Contractor

9: FMC Corp.

Armored Gun System (AGS): (United Defense, LP) Anniston, AL; (United Defense, LP) San Jose, CA; (United Defense, LP) Minneapolis, MN; (United Defense, LP) Aiken, SC;
Battlefield Combat Identification System (BCIS)—Near Term: (United Defense, LP) San Jose, CA;
Bradley Fighting Vehicle System (BFVS): (United Defense, LP) San Jose, CA; (United Defense, LP) York, PA; (United Defense, LP) Aiken, SC; (United Defense, LP) Arlington, VA;
Command and Control Vehicle (C2V): (United Defense, LP) San Jose, CA; (United Defense, LP) Aiken, SC;
Crusader: (United Defense, LP) San Jose, CA; (United Defense, LP) Minneapolis, MN;
Grizzly: (United Defense, LP) York, PA;
Ground-Based Common Sensor (GBCS): (United Defense, LP) Santa Clara, CA;
Hercules: (United Defense, LP) York, PA;
Line-of-Sight Antitank (LOSAT): (United Defense, LP) San Jose, CA;
M113 Family of Vehicles (FOV): (United Defense, LP) San Jose, CA;
Paladin: (United Defense, LP) Letterkenny, PA; (United Defense, LP) York, PA;
Standardized Integrated Command Post System (SICPS): (United Defense, LP) San Jose, CA

10: McDonnell Douglas Corp.

Apache Longbow: (McDonnell Douglas Corp.) Mesa, AZ;
Bradley Fighting Vehicle System (BFVS): (McDonnell Douglas Corp.) Mesa, AZ;
Comanche: (McDonnell Douglas Corp.) St. Louis, MO;
Kiowa Warrior: (McDonnell Douglas Corp.) Montovia, CA;
National Missile Defense (NMD): (McDonnell Douglas Corp.) Huntington Beach, CA

11: E-Systems

Joint Tactical Terminal (JTT): (E-Systems) St. Petersberg, FL

12: Olin Corp.

Brilliant Anti-Armor Submunition (BAT): (Olin Corp.) San Leondro, CA;
Crusader: (Olin Corp.) Charleston, TN;
Mortar (120 mm): (Olin Corp.) East Alton, IL;
Soldier System: (Olin Corp.) East Alton, IL;
Tank Main Gun Ammunition: (Olin Corp.) St. Petersburg, FL

13: United Technologies Corp.

Apache Longbow: (Hamilton Standard) Windsor Locks, CT;
Black Hawk: (Sikorsky Aircraft) Stratford, CT;
Comanche: (Hamilton Standard) Windsor Locks, CT; (Sikorsky Aircraft Team w/Boeing) Stratford, CT;
Multiple Launch Rocket System (MLRS): (United Technologies Corp.) Norwalk, CT;
Special Operations Aircraft (SOA): (Sikorsky Aircraft) Stratford, CT;
Theater High Altitude Area Defense (THAAD) System: (United Technologies Corp.) San Jose, CA

14: Carlyle Partners

All Source Analysis System (ASAS): (BDM International Inc.) McLean, VA;
Common Hardware/Software (CHS): (BDM International Inc.) Huntsville, AL;
National Missile Defense (NMD): (BDM International Inc.) Huntsville, AL

15: Oshkosh Truck Corp.

Heavy Equipment Transporter System (HETS): (Oshkosh Truck Corp.) Oshkosh, WI;
Palletized Load System (PLS): (Oshkosh Truck Corp.) Oshkosh, WI;
Theater High Altitude Area Defense (THAAD) System: (Oshkosh Truck Corp.) Oshkosh, WI

16: ITT Corp.

Apache Longbow: (ITT Corp.) Nutley, NJ;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (ITT Corp.) Fort Wayne, IN;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (ITT Corp.) Roanoke, VA;
Radar Deception and Jamming (RD&J) ATD: (ITT Corp.) Clifton, NJ;
Single Channel Ground and Airborne Radio System (SINCGARS): (ITT Corp.) Fort Wayne, IN

17: Boeing Co.

Avenger: (Boeing Co.) Huntsville, AL; (Boeing Co.) Oakridge, TN;

Comanche: (Boeing Co.) Midlothian, TX; (Boeing Co.) Seattle, WA; (Team w/ UTC's Sikorsky Aircraft) Stratford, CT;
National Missile Defense (NMD): (Boeing Co.) Seattle, WA;
Special Operations Aircraft (SOA): (Boeing Helicopter) Philadelphia, PA

18: Foundation Health Corp.

19: Delta Dental Plan of California

20: Boeing Sikorsky LHX Program Office

Comanche: (Boeing Sikorsky LHX Program Office) Stratford, CT

21: Computer Sciences Corp.

Standard Army Management Information Systems (STAMIS): (Computer Sciences Corp.) Moorestown, NJ

22: The Renco Group Inc.

23: TRW Inc.

Airborne Reconnaissance Low (ARL): (TRW Inc.) Sunnyvale, CA;
Battlefield Combat Identification: (TRW Inc.) Redondo Beach, CA;
Battlefield Combat Identification System (BCIS)—Near Term: (TRW Inc.) Redondo Beach, CA;
Comanche: (TRW Inc.) San Diego, CA;
Combat Service Support Control System (CSSCS): (TRW Inc.) Carson, CA;
Force Projection Tactical Operations Center (FP TOC):
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (TRW Inc.) Redondo Beach, CA;
Guardrail Common Sensor (GRCS): (TRW Inc.) Sunnyvale, CA;
Integrated System Control (ISYSCON): (TRW Inc.) Cambridge, MA;
Line-of-Sight Antitank (LOSAT): (TRW Inc.) Troy, MI;
Milstar—Army: (TRW Inc.) Redondo Beach, CA;
National Missile Defense (NMD): (TRW Inc.) Redondo Beach, CA;
Patriot: (TRW Inc.) Campbell, CA;
Theater High Altitude Area Defense (THAAD) System: (TRW Inc.) Redondo Beach, CA

24: General Electric Co.

Apache Longbow: (General Electric Co.) Binghamton, NY;
Armored Gun System (AGS): (General Electric Co.) Pittsfield, MA;
Avenger: (General Electric Co.) Pittsfield, MA; (General Electric Co.) Burlington, VT;
Black Hawk: (General Electric Co.) Lynn, MA;
Comanche: (General Electric Co.) Burlington, VT;
Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator: (General Electric Co.) Lynn, MA;
Satellite Communications (SATCOM): (General Electric Co.) Valley Forge, PA

25: DYNCORP

26: Texas Instruments/Lockheed Martin Javelin Joint Venture

Javelin: (Texas Instruments/Lockheed Martin Javelin Joint Venture) Lewisville, TX

27: Textron Inc.

Abrams Tank: (Cadillac Gage) Warren, MI; (Textron Lycoming) Stratford, CT;
Armored Gun System (AGS): (Cadillac Gage) Warren, MI;
Grizzly: (Cadillac Gage) Warren, MI;
Hornet: (Textron Defense Systems) Wilmington, MA;
Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator: (Textron Lycoming) Stratford, CT;
Kiowa Warrior: (Bell Helicopter) Fort Worth TX;
Special Operations Aircraft (SOA): (Textron Lycoming) Stratford, CT

28: AT&T Corp.

29: Giles Alexander

30: Mitre Corp.

Battlefield Combat Identification: (Mitre Corp.) Eatontown, NJ;
Maneuver Control System (MCS): (Mitre Corp.) Eatontown, NJ;
National Missile Defense (NMD): (Mitre Corp.) Huntsville, AL

31: Northrop-Grumman Corp.

Black Hawk: (Northrop-Grumman Corp.) Fleetville, PA;
Brilliant Anti-Armor Submunition (BAT): (Northrop-Grumman Corp.) Hawthorne, CA; (Northrop-Grumman Corp.) Perry, GA;
Comanche: (Northrop-Grumman Corp.) Bethpage, NY;
Integrated Family of Test Equipment (IFTE): (Northrop-Grumman Corp.) Great River, NY;
Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM): (Northrop-Grumman Corp.) Melbourne, FL;
Kiowa Warrior: (Northrop-Grumman Corp.) Hawthorne, CA

32: Halliburton Co.

33: Clark Enterprises Inc.

34: Domestic Contractors

35: Motorola Inc.

Brilliant Anti-Armor Submunition (BAT): (Motorola Inc.) Phoenix, AZ;
Gen II Soldier System ATD: (Motorola Inc.) Scottsdale, AZ;
Ground-Based Common Sensor (GBCS): (Motorola Inc.) Scottsdale, AZ;
Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM): (Motorola Inc.) Scottsdale, AZ;
Patriot: (Motorola Inc.) Phoenix, AZ;
Satellite Communications (SATCOM): (Motorola Inc.) Scottsdale, AZ;
Tank Main Gun Ammunition: (Motorola Inc.) Scottsdale, AZ;
Thermal Weapon Sight (TWS): (Motorola Inc.) Scottsdale, AZ

36: European Utility

37: Hensel Phelps Construction Co.

38: Alliant TechSystems Inc.

Bradley Fighting Vehicle System (BFVS): (Alliant TechSystems Inc.) Minneapolis, MN;
Crusader: (Alliant TechSystems Inc.) Edina, MN;
Paladin: (Alliant TechSystems Inc.) Edina, MN;
Sense and Destroy Armor (SADARM): (Alliant TechSystems Inc.) Edina, MN;

Tank Main Gun Ammunition: (Alliant TechSystems Inc.) Brooklyn Park, MN

39: Johnson Controls Inc.

40: Mortenson M A Companies

41: MESC Holdings Inc.

42: Harris Corp.

Comanche: (Harris Corp.) Melbourne, FL;
Digital Transmission Assemblages: (Harris Corp.) Melbourne, FL;
Milstar—Army: (Harris Corp.) Melbourne, FL;
Satellite Communications (SATCOM): (Harris Corp.) Melbourne, FL;
Sense and Destroy Armor (SADARM): (Harris Corp.) Melbourne, FL

43: LOGICON Inc.

44: Bell Atlantic Corp.

45: Mansour General Dynamics LTD

46: International Technology Corp.

47: Texas Instruments Inc.

Abrams Tank: (Texas Instruments Inc.) Dallas, TX;
Avenger: (Texas Instruments Inc.) Dallas, TX;
Bradley Fighting Vehicle System (BFVS): (Texas Instruments Inc.) Dallas, TX;

Brilliant Anti-Armor Submunition (BAT): (Texas Instruments Inc.) Midland, TX;
Driver's Vision Enhancer (DVE): (Texas Instruments Inc.) Dallas, TX;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (Texas Instruments Inc.) Dallas, TX;
Hornet: (Texas Instruments Inc.) Dallas, TX;
Hunter Sensor Suite ATD: (Texas Instruments Inc.) Dallas, TX;
Javelin: (JV w/ Lockheed Martin) Lewisville, TX;
Line-of-Sight Antitank (LOSAT): (Texas Instruments Inc.) Dallas, TX;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Texas Instruments Inc.) Dallas, TX;
Second Generation Foward Looking Infrared (2d Gen FLIR): (Texas Instruments Inc.) McKinney, TX;
Soldier System: (Texas Instruments Inc.) San Antonio, TX;
Special Operations Aircraft (SOA): (Texas Instruments Inc.) McKinney, TX;
Theater High Altitude Area Defense (THAAD) System: (Texas Instruments Inc.) Dallas, TX;
TOW Improved Target Acquisition System (ITAS): (Texas Instruments Inc.) McKinney, TX;
TOW Weapon System: (Texas Instruments Inc.) Dallas, TX

48: Booz-Allen Hamilton

Battlefield Combat Identification: (Booz-Allen Hamilton) Eatontown, NJ;
Bradley Fighting Vehicle System (BFVS): (Booz-Allen Hamilton) San Fransisco, CA;
Line-of-Sight Antitank (LOSAT): (Booz-Allen Hamilton) Huntsville, AL; (Booz-Allen Hamilton) McLean, VA;
National Missile Defense (NMD): (Booz-Allen Hamilton) Huntsville, AL

49: Black & Decker Corp.

50: Rockwell International Corp.

Army Data Distribution System (ADDS): (Defense Electronics Division) Cedar Rapids, IA;
Family Of Medium Tactical Vehicles (FMTV): (Rockwell International Corp.) Oshkosh, WI;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (Rockwell International Corp.) Cedar Rapids, IA;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (Rockwell International Corp.) Cedar Rapids, IA;
Kiowa Warrior: (Rockwell International Corp.) Cedar Rapids, IA;
Laser HELLFIRE: (Rockwell International Corp.) Duluth, GA;
Milstar—Army: (Rockwell International Corp.) Richardson, TX;
National Missile Defense (NMD): (Rockwell International Corp.) Downey, CA;
NAVSTAR Global Positioning System (GPS): (Rockwell International Corp.) Cedar Rapids, IA;
Palletized Load System (PLS): (Rockwell International Corp.) Oshkosh, WI;
Patriot: (Rockwell International Corp.) Anaheim, CA; (Rockwell International Corp.) Dallas, TX

51: EG&G Inc.

Brilliant Anti-Armor Submunition (BAT): (EG&G Inc.) Covina, CA

52: Enserch Corp.

53: Israel Aircraft Industries LTD

54: Nichols Research Corp.

Avenger: (Nichols Research Corp.) Huntsville, AL;
Line-of-Sight Antitank (LOSAT): (Nichols Research Corp.) Huntsville, AL;
National Missile Defense (NMD): (Nichols Research Corp.) Huntsville, AL;
Stinger: (Nichols Research Corp.) Huntsville, AL

55: Teledyne Inc.

Army Tactical Missile System (Army TACMS): (Teledyne Inc.) Hollister, CA; (Teledyne Inc.) Los Angeles, CA;
Comanche: (Teledyne Inc.) Los Angeles, CA; (Teledyne Inc.) Hudson, NH;
Crusader: (Teledyne Inc.) Muskegon, MI;
Force Provider: (Teledyne Brown) Huntsville, AL;
Hercules: (Teledyne Inc.) Muskegon, MI;
National Missile Defense (NMD): (Teledyne Inc.) Huntsville, AL;
Patriot: (Teledyne Inc.) Mountain View, CA;
Sense and Destroy Armor (SADARM): (Teledyne Inc.) Los Angeles, CA

56: Honeywell Inc.

Army Tactical Missile System (Army TACMS): (Honeywell Inc.) Clearwater, FL; (Honeywell Inc.) Minneapolis, MN;
Gen II Soldier System ATD: (Honeywell Inc.) Minneapolis, MN;
Kiowa Warrior: (Honeywell Inc.) Minneapolis, MN; (Honeywell Inc.) Albuquerque, NM;
National Missile Defense (NMD): (Honeywell Inc.) Clearwater, FL;
Paladin: (Honeywell Inc.) St. Petersburg, FL;
Patriot: (Honeywell Inc.) Clearwater, FL; (Honeywell Inc.) Minneapolis, MN;
Stinger: (Honeywell Inc.) Minneapolis, MN;
Theater High Altitude Area Defense (THAAD) System: (Honeywell Inc.) Orlando, FL

57: Allied Signal Inc.

Apache Longbow: (Allied Signal Inc.) Phoenix, AZ; (Allied Signal Inc.) Eatontown, NJ; (Allied Signal Inc.) Teterboro, NJ;
Black Hawk: (Allied Signal Inc.) Tempe, AZ; (Allied Signal Inc.) Teterboro, NJ;
Comanche: (Allied Signal/Rolls Royce/Allison Team) Glendale, AZ,; (Allied Signal/Rolls Royce/Allison Team) Phoenix, AZ; (Allied Signal/Rolls Royce/Allison Team) Tempe, AZ; (Allied Signal/Rolls Royce/Allison Team) Torrance, CA; (Allied Signal/Rolls Royce/Allison Team) South Bend, IN;
Individual Ballistic Protection: (Allied Signal Inc.) Hartford, CT;
Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator: (Allied Signal Inc.) Phoenix, AZ;
Kiowa Warrior: (Allied Signal Inc.) Tucson, AZ; (Allied Signal Inc.) Baltimore, MD;
Line-of-Sight Antitank (LOSAT): (Allied Signal Inc.) Cheshire, CT;
Multiple Launch Rocket System (MLRS): (Allied Signal Inc.) Teterboro, NJ;
Patriot: (Allied Signal Inc.) Baltimore, MD;
Radar Deception and Jamming (RD&J) ATD: (Allied Signal Inc.) Teterboro, NJ;
Special Operations Aircraft (SOA): (Allied Signal Inc.) Teterboro, NJ;
TOW Weapon System: (Allied Signal Inc.) Cheshire, CT

58: UNISYS Corp.

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS): (UNISYS Corp.) King of Prussia, PA;
Guardrail Common Sensor (GRCS): (UNISYS Corp.) Salt Lake City, UT

59: Federal Prison Industries

60: SKH Holdings Inc.

61: ACTUS Corp./SUNDT, Joint Venture

62: Hercules Inc.

Army Tactical Missile System (Army TACMS): (Hercules Inc.) McGregor, TX;
Comanche: (Hercules Inc.) Ogden, UT;
Hornet: (Hercules Inc.) Rocket City, WV;
Hydra 70 Rocket System: (Hercules Inc.) Radford, VA;
Javelin: (Hercules Inc.) Rocket City, WV;
Line-of-Sight Antitank (LOSAT): (Hercules Inc.) Rocket City, WV;
Mortar (120 mm): (Hercules Inc.) Radford, VA;
Patriot: (Hercules Inc.) Cumberland, MD;

Tank Main Gun Ammunition: (Hercules Inc.) Clearwater, FL; (Hercules Inc.) Radford, VA; (Hercules Inc.) Rocket City, WV;
TOW Weapon System: (Hercules Inc.) Radford, VA

63: Network Equipment Technologies

64: SRA International Inc.

65: Coleman Research Corp.

Line-of-Sight Antitank (LOSAT): (Coleman Research Corp.) Huntsville, AL

66: Blue Cross Blue Shield of SC

67: Eastman Kodak

Deployable Medical Systems (DEPMEDS): (Eastman Kodak) Rochester, NY

68: Philipp Holzmann AG

69: Chrysler Corp.

Advanced Quick Fix (AQF): (Electrospace Systems Inc.) Richardson, TX;
Armored Gun System (AGS): (Pentastar) Huntsville, AL;
Bradley Fighting Vehicle System (BFVS): (Pentastar) Huntsville, AL;
Grizzly: (Pentastar) Huntsville, AL;
Ground-Based Common Sensor (GBCS): (Electrospace Systems Inc.) Richardson, TX;
Second Generation Foward Looking Infrared (2d Gen FLIR): (Pentastar) Huntsville, AL

70: Kiewit Peter Sons de Corp.

71: Litton Industries Inc.

Apache Longbow: (Litton Industries Inc.) Woodland Hills, CA;
Comanche: (Litton Industries Inc.) Los Angeles, CA;
Kiowa Warrior: (Litton Industries Inc.) Woodland Hills, CA; (Litton Industries Inc.) Orlando, FL;
National Missile Defense (NMD): (Litton Industries Inc.) Woodland Hills, CA;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Litton Industries Inc.) Tempe, AZ;
Patriot: (Litton Industries Inc.) Woodland Hills, CA; (Litton Industries Inc.) Clifton Heights, PA;
Theater High Altitude Area Defense (THAAD) System: (Litton Industries Inc.) Agoura Hills, CA

72: Westinghouse Electric Corp.

Airborne Standoff Minefield Detection System (ASTAMIDS): (Westinghouse Electric Corp.) Baltimore, MD;
Apache Longbow: (JV w/ Lockheed Martin) Baltimore, MD; (JV w/ Lockheed Martin) Dallas, TX;
Comanche: (Westinghouse Electric Corp.) Baltimore, MD;
Laser HELLFIRE: (JV w/ Lockheed Martin) Baltimore, MD;
Longbow HELLFIRE: (JV w/ Lockheed Martin) Baltimore, MD;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Westinghouse Electric Corp.) Baltimore, MD;
Tactical Endurance Synthetic Aperture Radar (TESAR): (Westinghouse Electric Corp.) Baltimore, MD; (Westinghouse Electric Corp.) Albequerque, NM;
Theater High Altitude Area Defense (THAAD) System: (Westinghouse Electric Corp.) Sunnyvale, CA; (Westinghouse Electric Corp.) Baltimore, MD

73: WMX Technologies Inc.

74: Blackstone Dredging Partners

75: Hunt Building Corp.

76: Duchossois Industries

Mortar (120 mm): (Duchossois Industries) Scranton, PA;
Small Arms (MK-19-3 40 mm Automatic Grenade Launcher): (Saco Defense) Saco, ME

77: James T L & Co. Inc.

78: Parsons Corp.

79: Conner Brothers CNSTR Co.

80: California Microwave Inc.

Airborne Reconnaissance Low (ARL): (California Microwave Inc.) Belcamp, MD

81: Morrison Knudsen Corp.

82: Pizzagalli Construction Co.

83: Institute for Defense Analysis

84: PACIFICorp

85: Bechtel Group Inc.

86: Caddel Construction Co. Inc.

87: Young & Rubicam Inc.

88: Johnson Al Construction Co.

89: Ogden Corp.

90: M V P Joint Venture

91: GenCorp Inc.

Joint Tactical Ground Station (JTAGS): (Aerojet) Azusa, CA; (Aerojet) Colorado Springs, CO;
MPIM/SRAW: (Aerojet) Sacramento;
Sense and Destroy Armor (SADARM): (Aerojet) Azusa, CA;
Tank Main Gun Ammunition: (Aerojet) Jonesboro, TN;
TOW Weapon System: (Aerojet) Azusa, CA

92: Federal Republic of Germany

93: Light Helicoptor Turbine Engine Co.

94: Dames & Moore Inc.

95: IBM Corp.

Ground-Based Common Sensor (GBCS): (IBM Corp.) Owego, NY;
Guardrail Common Sensor (GRCS): (IBM Corp.) Owego, NY

96: Harbert Bill International Construction

97: Stonebrook Group

Advanced Field Artillery Tactical Data System (AFATDS): (MILTOPE Inc.) Montgomery, AL; (MILTOPE Inc.) Eatontown, NJ;
Comanche: (MILTOPE Inc.) Melville, NY;
Common Hardware/Software (CHS): (MILTOPE Inc.) Melville, NY;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (MILTOPE Inc.) Birmingham, AL

98: Dillingham/A B B SUSA JV

99: Monarch Construction Co.

100: Centex Corp.

ACTUS Corp./SUNDT, Joint Venture (61)

Alliant TechSystems Inc. (38)

Bradley Fighting Vehicle System (BFVS): (Alliant TechSystems Inc.) Minneapolis, MN;
Crusader: (Alliant TechSystems Inc.) Edina, MN;
Paladin: (Alliant TechSystems Inc.) Edina, MN;
Sense and Destroy Armor (SADARM): (Alliant TechSystems Inc.) Edina, MN;
Tank Main Gun Ammunition: (Alliant TechSystems Inc.) Brooklyn Park, MN

Allied Signal Inc. (57)

Apache Longbow: (Allied Signal Inc.) Phoenix, AZ; (Allied Signal Inc.) Eatontown, NJ; (Allied Signal Inc.) Teterboro, NJ;
Black Hawk: (Allied Signal Inc.) Tempe, AZ; (Allied Signal Inc.) Teterboro, NJ;
Comanche: (Allied Signal/Rolls Royce/Allison Team) Glendale, AZ,; (Allied Signal/Rolls Royce/Allison Team) Phoenix, AZ; (Allied Signal/Rolls Royce/Allison Team) Tempe, AZ; (Allied Signal/Rolls Royce/Allison Team) Torrance, CA; (Allied Signal/Rolls Royce/Allison Team) South Bend, IN;
Individual Ballistic Protection: (Allied Signal Inc.) Hartford, CT;
Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator: (Allied Signal Inc.) Phoenix, AZ;
Kiowa Warrior: (Allied Signal Inc.) Tucson, AZ; (Allied Signal Inc.) Baltimore, MD;
Line-of-Sight Antitank (LOSAT): (Allied Signal Inc.) Cheshire, CT;
Multiple Launch Rocket System (MLRS): (Allied Signal Inc.) Teterboro, NJ;
Patriot: (Allied Signal Inc.) Baltimore, MD;
Radar Deception and Jamming (RD&J) ATD: (Allied Signal Inc.) Teterboro, NJ;
Special Operations Aircraft (SOA): (Allied Signal Inc.) Teterboro, NJ;
TOW Weapon System: (Allied Signal Inc.) Cheshire, CT

AT&T Corp. (28)

Bechtel Group Inc. (85)

Bell Atlantic Corp. (44)

Black & Decker Corp. (49)

Blackstone Dredging Partners (74)

Blue Cross Blue Shield of SC (66)

Boeing Co. (17)

Avenger: (Boeing Co.) Huntsville, AL; (Boeing Co.) Oakridge, TN;
Comanche: (Boeing Co.) Midlothian, TX; (Boeing Co.) Seattle, WA; (Team w/ UTC's Sikorsky Aircraft) Stratford, CT;
National Missile Defense (NMD): (Boeing Co.) Seattle, WA;
Special Operations Aircraft (SOA): (Boeing Helicopter) Philadelphia, PA

Boeing Sikorsky LHX Program Office (20)

Comanche: (Boeing Sikorsky LHX Program Office) Stratford, CT

Booz-Allen Hamilton (48)

Battlefield Combat Identification: (Booz-Allen Hamilton) Eatontown, NJ;
Bradley Fighting Vehicle System (BFVS): (Booz-Allen Hamilton) San Fransisco, CA;
Line-of-Sight Antitank (LOSAT): (Booz-Allen Hamilton) Huntsville, AL; (Booz-Allen Hamilton) McLean, VA;
National Missile Defense (NMD): (Booz-Allen Hamilton) Huntsville, AL

Brand Name Contractor (8)

Caddel Construction Co. Inc. (86)

California Microwave Inc. (80)

Airborne Reconnaissance Low (ARL): (California Microwave Inc.) Belcamp, MD

Carlyle Partners (14)

All Source Analysis System (ASAS): (BDM International Inc.) McLean, VA;
Common Hardware/Software (CHS): (BDM International Inc.) Huntsville, AL;
National Missile Defense (NMD): (BDM International Inc.) Huntsville, AL

Centex Corp. (100)

Chrysler Corp. (69)

Advanced Quick Fix (AQF): (Electrospace Systems Inc.) Richardson, TX;
Armored Gun System (AGS): (Pentastar) Huntsville, AL;
Bradley Fighting Vehicle System (BFVS): (Pentastar) Huntsville, AL;
Grizzly: (Pentastar) Huntsville, AL;
Ground-Based Common Sensor (GBCS): (Electrospace Systems Inc.) Richardson, TX;
Second Generation Foward Looking Infrared (2d Gen FLIR): (Pentastar) Huntsville, AL

Clark Enterprises Inc. (33)

Coleman Research Corp. (65)

Line-of-Sight Antitank (LOSAT): (Coleman Research Corp.) Huntsville, AL

Computer Sciences Corp. (21)

Standard Army Management Information Systems (STAMIS): (Computer Sciences Corp.) Moorestown, NJ

Conner Brothers CNSTR Co. (79)

Dames & Moore Inc. (94)

Delta Dental Plan of California (19)

Dillingham/A B B SUSA JV (98)

Domestic Contractors (34)

Duchossois Industries (76)

Mortar (120 mm): (Duchossois Industries) Scranton, PA;
Small Arms (MK-19-3 40 mm Automatic Grenade Launcher): (Saco Defense) Saco, ME

DYNCORP (25)

E-Systems (11)

Joint Tactical Terminal (JTT): (E-Systems) St. Petersburg, FL

Eastman Kodak (67)

Deployable Medical Systems (DEPMEDS): (Eastman Kodak) Rochester, NY

EG&G Inc. (51)

Brilliant Anti-Armor Submunition (BAT): (EG&G Inc.) Covina, CA

Enserch Corp. (52)

European Utility (36)

Federal Prison Industries (59)

Federal Republic of Germany (92)

FMC Corp. (9)

Armored Gun System (AGS): (United Defense, LP) Anniston, AL; (United Defense, LP) San Jose, CA; (United Defense, LP) Minneapolis, MN; (United Defense, LP) Aiken, SC;
Battlefield Combat Identification System (BCIS)—Near Term: (United Defense, LP) San Jose, CA;
Bradley Fighting Vehicle System (BFVS): (United Defense, LP) San Jose, CA; (United Defense, LP) York, PA; (United Defense, LP) Aiken, SC; (United Defense, LP) Arlington, VA;

NOTE: *Prime contractors are identified by italicized text*

Command and Control Vehicle (C2V): (United Defense, LP) San Jose, CA; (United Defense, LP) Aiken, SC;
Crusader: (United Defense, LP) San Jose, CA; (United Defense, LP) Minneapolis, MN;
Grizzly: (United Defense, LP) York, PA;
Ground-Based Common Sensor (GBCS): (United Defense, LP) Santa Clara, CA;
Hercules: (United Defense, LP) York, PA;
Line-of-Sight Antitank (LOSAT): (United Defense, LP) San Jose, CA;
M113 Family of Vehicles (FOV): (United Defense, LP) San Jose, CA;
Paladin: (United Defense, LP) Letterkenny, PA; (United Defense, LP) York, PA;
Standardized Integrated Command Post System (SICPS): (United Defense, LP) San Jose, CA

Foundation Health Corp. (18)

GenCorp Inc. (91)

Joint Tactical Ground Station (JTAGS): (Aerojet) Azusa, CA; (Aerojet) Colorado Springs, CO;
MPIM/SRAW: (Aerojet) Sacramento;
Sense and Destroy Armor (SADARM): (Aerojet) Azusa, CA;
Tank Main Gun Ammunition: (Aerojet) Jonesboro, TN;
TOW Weapon System: (Aerojet) Azusa, CA

General Dynamics Corp. (2)

Abrams Tank: (Land Systems Division) Sterling Heights, MI; (Land Systems Division) Warren, MI; (Land Systems Division) Lima, OH; (Land Systems Division) Scranton, PA;
Battlefield Combat Identification System (BCIS)—Near Term: (General Dynamics Corp.) Sterling Heights, MI;
Grizzly: (General Dynamics Corp.) Sterling Heights, MI;
Kiowa Warrior: (General Dynamics Corp.) Pomona, CA;
Nuclear, Biological, and Chemical Reconnaissance System (NBCRS)—FOX: (Land Systems Division) Detroit, MI;
Single Channel Ground and Airborne Radio System (SINCGARS): (General Dynamics Corp.) Tallahassee, FL;
Wolverine: (Land Systems Division) Sterling Heights, MI

General Electric Co. (24)

Apache Longbow: (General Electric Co.) Binghamton, NY;
Armored Gun System (AGS): (General Electric Co.) Pittsfield, MA;
Avenger: (General Electric Co.) Pittsfield, MA; (General Electric Co.) Burlington, VT;
Black Hawk: (General Electric Co.) Lynn, MA;
Comanche: (General Electric Co.) Burlington, VT;
Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator: (General Electric Co.) Lynn, MA;
Satellite Communications (SATCOM): (General Electric Co.) Valley Forge, PA

General Motors Corp. (4)

Abrams Tank: (Hughes Electronics) Los Angeles, CA;
Armored Gun System (AGS): (Hughes Electronics) El Segundo, CA;
Army Data Distribution System (ADDS): (Hughes Electronics) El Segundo, CA; (Hughes Electronics) Forrest, MS;
Avenger: (Hughes Electronics) Tucson, AZ; (Hughes Electronics) Pomona, CA; (Hughes Electronics) Farmington, NM;
Bradley Fighting Vehicle System (BFVS): (Hughes Electronics) Manhattan Beach, CA; (Hughes Electronics) La Grange, GA;
Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS): (Hughes Electronics) El Segundo, CA; (Hughes Electronics) Forrest, MS;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (Hughes Electronics) Fullerton, CA; (Hughes Electronics) Forrest, MS;
Gen II Soldier System ATD: (Hughes Electronics) Fullerton, CA;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (General Motors Diesel) Moraine,OH; (General Motors Hydromatic) Ypsilanti, MI;
Hornet: (Hughes Electronics) Fullerton, CA;
MEADS (Concept Study Contractors): (Hughes Electronics Team w/Raytheon) El Segundo, CA;
Mortar (120 mm): (Hughes-Leitz) Canada;
National Missile Defense (NMD): (Hughes Aircraft) Tucson, AZ; (Hughes Aircraft) El Segundo, CA;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Hughes Electronics) El Segundo, CA;
Patriot: (Hughes Electronics) Newport Beach, CA;
Second Generation Foward Looking Infrared (2d Gen FLIR): (Hughes Electronics) El Segundo, CA;
Soldier System: (Hughes Aircraft) El Segundo, CA;
Special Operations Aircraft (SOA): (Hughes Electronics) Mesa, AZ;
Stinger: (Hughes Aircraft) Tucson, AZ,; (Hughes Aircraft) Pomona, CA; (Hughes Aircraft) Farmington, NM;
Thermal Weapon Sight (TWS): (Hughes Electronics) El Segundo, CA; (Hughes Georgia Inc.) LaGrange, GA; (Hughes Leitz Optical Technologies) Midland, ON; (Hughes Microelectronics Division) Newport Beach, CA; (Packard Hughes Interconnects) Irvine, CA;
TOW Improved Target Acquisition System (ITAS): (Hughes Electronics) El Segundo, CA;
TOW Weapon System: (Hughes Electronics) Tucson, AZ; (Hughes Electronics) Goleta, CA

Giles Alexander (29)

GTE Corp. (7)

Circuit Switch/Message Switch: (GTE Corp.) Taunton, MA;
Command and Control Vehicle (C2V): (GTE Corp.) Taunton, MA;
Common Hardware/Software (CHS): (GTE Corp.) Taunton, MA;
Integrated System Control (ISYSCON): (GTE Corp.) Taunton, MA;
Maneuver Control System (MCS): (GTE Corp.) Taunton, MA; (Telos) Shrewsbury, NJ;
Mobile Subscriber Equipment (MSE): (GTE Corp.) Taunton, MA;
Patriot: (GTE Corp.) Towanda, PA;
Satellite Communications (SATCOM): (GTE Corp.) Taunton, MA

Halliburton Co. (32)

Harbert Bill International Construction (96)

Harris Corp. (42)
Comanche: (Harris Corp.) Melbourne, FL;
Digital Transmission Assemblages: (Harris Corp.) Melbourne, FL;
Milstar—Army: (Harris Corp.) Melbourne, FL;
Satellite Communications (SATCOM): (Harris Corp.) Melbourne, FL;
Sense and Destroy Armor (SADARM): (Harris Corp.) Melbourne, FL

Hensel Phelps Construction Co. (37)

Hercules Inc. (62)

Army Tactical Missile System (Army TACMS): (Hercules Inc.) McGregor, TX;
Comanche: (Hercules Inc.) Ogden, UT;
Hornet: (Hercules Inc.) Rocket City, WV;
Hydra 70 Rocket System: (Hercules Inc.) Radford, VA;
Javelin: (Hercules Inc.) Rocket City, WV;
Line-of-Sight Antitank (LOSAT): (Hercules Inc.) Rocket City, WV;
Mortar (120 mm): (Hercules Inc.) Radford, VA;
Patriot: (Hercules Inc.) Cumberland, MD;
Tank Main Gun Ammunition: (Hercules Inc.) Clearwater, FL; (Hercules Inc.) Radford, VA; (Hercules Inc.) Rocket City, WV;
TOW Weapon System: (Hercules Inc.) Radford, VA

Honeywell Inc. (56)

Army Tactical Missile System (Army TACMS): (Honeywell Inc.) Clearwater, FL; (Honeywell Inc.) Minneapolis, MN;
Gen II Soldier System ATD: (Honeywell Inc.) Minneapolis, MN;
Kiowa Warrior: (Honeywell Inc.) Minneapolis, MN; (Honeywell Inc.) Albuquerque, NM;
National Missile Defense (NMD): (Honeywell Inc.) Clearwater, FL;
Paladin: (Honeywell Inc.) St. Petersburg, FL;
Patriot: (Honeywell Inc.) Clearwater, FL; (Honeywell Inc.) Minneapolis, MN;
Stinger: (Honeywell Inc.) Minneapolis, MN;
Theater High Altitude Area Defense (THAAD) System: (Honeywell Inc.) Orlando, FL

Hunt Building Corp. (75)

IBM Corp. (95)

Ground-Based Common Sensor (GBCS): (IBM Corp.) Owego, NY;
Guardrail Common Sensor (GRCS): (IBM Corp.) Owego, NY

Institute for Defense Analysis (83)

International Technology Corp. (46)

Israel Aircraft Industries LTD (53)

ITT Corp. (16)

Apache Longbow: (ITT Corp.) Nutley, NJ;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (ITT Corp.) Fort Wayne, IN;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (ITT Corp.) Roanoke, VA;
Radar Deception and Jamming (RD&J) ATD: (ITT Corp.) Clifton, NJ;
Single Channel Ground and Airborne Radio System (SINCGARS): (ITT Corp.) Fort Wayne, IN

James T L & Co. Inc. (77)

Johnson Al Construction Co. (88)

Johnson Controls Inc. (39)

Kiewit Peter Sons de Corp. (70)

Light Helicoptor Turbine Engine Co. (93)

Litton Industries Inc. (71)

Apache Longbow: (Litton Industries Inc.) Woodland Hills, CA;
Comanche: (Litton Industries Inc.) Los Angeles, CA;
Kiowa Warrior: (Litton Industries Inc.) Woodland Hills, CA; (Litton Industries Inc.) Orlando, FL;
National Missile Defense (NMD): (Litton Industries Inc.) Woodland Hills, CA;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Litton Industries Inc.) Tempe, AZ;
Patriot: (Litton Industries Inc.) Woodland Hills, CA; (Litton Industries Inc.) Clifton Heights, PA;
Theater High Altitude Area Defense (THAAD) System: (Litton Industries Inc.) Agoura Hills, CA

Lockheed Martin Corp. (3)

All Source Analysis System (ASAS): (Lockheed Martin Corp.) Littleton, CO; (Lockheed Martin Corp.) Pittsfield, MA;
Apache Longbow: (JV w/ Westinghouse) Orlando, FL;
Army Global Command and Control System (AGCCS): (Lockheed Martin Corp.) Springfield, VA;
Army Tactical Missile System (Army TACMS): (Lockheed Martin Corp.) Milan, TN;
Bradley Fighting Vehicle System (BFVS): (Lockheed Martin Corp.) Pittsfield, MA;
Comanche: (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Burlington, VT;
Command and Control Vehicle (C2V): (Lockheed Martin Corp.) Pittsfield, MA;
Crusader: (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Pittsfield, MA; (Lockheed Martin Corp.) Burlington, VT;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (Lockheed-Sanders Corp.) Nashua, NH;
Ground-Based Common Sensor (GBCS): (Lockheed-Sanders Corp. JV w/AEL) Hudson, NH;
Javelin: (JV w/ Texas Instruments) Troy, AL; (JV w/ Texas Instruments) Ocala, FL; (JV w/ Texas Instruments) Orlando, FL;
Laser HELLFIRE: (JV w/ Westinghouse) Orlando, FL;
Longbow HELLFIRE: (JV w/ Westinghouse) Orlando, FL;
MEADS(Concept Study Contractors): (Lockheed Martin Corp.) Huntsville, AL; (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Syracuse, NY;
Milstar—Army: (Lockheed Martin Corp.) Camden, NJ;
Mortar (120 mm): (Lockheed Martin Corp.) Burlington, VT;
National Missile Defense (NMD): (Lockheed Missiles & Space) Sunnyvale, CA;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Lockheed Martin Corp.) Orlando, FL; (Lockheed-Sanders Corp.) Nashua, NH;
Patriot: (Lockheed Martin Corp.) Orlando, FL; (Lockheed Martin Corp.) Baltimore, MD;
Satellite Communications (SATCOM): (Lockheed Martin Corp.) Bethesda, MD;
Theater High Altitude Area Defense (THAAD) System: (Lockheed Missiles & Space) Huntsville, AL; (Lockheed Missiles & Space) Sunnyvale, CA; (Lockheed-Sanders Corp.) Nashua, NH

LOGICON Inc. (43)

Loral Corp. (5)

Advanced Integrated Collective Protection System (AICPS): (Loral Librascope) Glendale, CA;
All Source Analysis System (ASAS): (Loral Corp.) San Jose, CA;
Army Tactical Missile System (Army TACMS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Horizon City, TX;
Battlefield Distributed Simulation—Developmental: (Loral Corp.) Akron, OH;
Close Combat Tactical Trainer (CCTT): (Loral Corp.) Bethesda, MD; (Loral Corp.) Manasass, VA;
Comanche: (Loral Corp.) Lexington, MA;
Command and Control Vehicle (C2V): (Western Development Labs) San Jose, CA;
Extended Range Multiple Launch Rocket System (ER-MLRS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX;
High Mobility Artillery Rocket System (HIMARS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas, TX;
Javelin: (Loral Corp.) Lexington, MA;
Joint Tactical Ground Station (JTAGS): (Loral Corp.) Boulder, CO;
Line-of-Sight Antitank (LOSAT): (Loral Vought Systems) Orlando, FL; (Loral Vought Systems) Cambridge, MA; (Loral Vought Systems) Dallas, TX; (Loral Vought Systems) Bellevue, WA;
Mortar (120 mm): (Loral Corp.) Archibald, PA;
MPIM/SRAW: (Loral Aeronutronic) Ranch Santa Margarita, CA;
Multiple Launch Rocket System (MLRS): (Loral Vought Systems) Camden, AR; (Loral Vought Systems) Dallas TX;
National Missile Defense (NMD): (Loral Corp.) Dallas, TX;
Patriot: (Loral Vought Systems) San Diego, CA; (Loral Vought Systems) Dallas, TX;
Satellite Communications (SATCOM): (Loral Corp.) Colorado Springs, CO;
Special Operations Aircraft (SOA): (Loral Corp.) Owego, NY;
Standard Army Management Information Systems (STAMIS): (Loral Federal Systems) Bethesda, MD;

Theater High Altitude Area Defense (THAAD) System: (Loral Corp.) Lexington, MA; (Loral Corp.) Dallas, TX;
TOW Improved Target Acquisition System (ITAS): (Loral Corp.) Syosset, NY;
TOW Weapon System: (Loral Corp.) Archibald, PA

M V P Joint Venture (90)

Mansour General Dynamics LTD (45)

McDonnell Douglas Corp. (10)

Apache Longbow: (McDonnell Douglas Corp.) Mesa, AZ;
Bradley Fighting Vehicle System (BFVS): (McDonnell Douglas Corp.) Mesa, AZ;
Comanche: (McDonnell Douglas Corp.) St. Louis, MO;
Kiowa Warrior: (McDonnell Douglas Corp.) Montovia, CA;
National Missile Defense (NMD): (McDonnell Douglas Corp.) Huntington Beach, CA

MESC Holdings Inc. (41)

Mitre Corp. (30)

Battlefield Combat Identification: (Mitre Corp.) Eatontown, NJ;
Maneuver Control System (MCS): (Mitre Corp.) Eatontown, NJ;
National Missile Defense (NMD): (Mitre Corp.) Huntsville, AL

Monarch Construction Co. (99)

Morrison Knudsen Corp. (81)

Mortenson M A Companies (40)

Motorola Inc. (35)

Brilliant Anti-Armor Submunition (BAT): (Motorola Inc.) Phoenix, AZ;
Gen II Soldier System ATD: (Motorola Inc.) Scottsdale, AZ;
Ground-Based Common Sensor (GBCS): (Motorola Inc.) Scottsdale, AZ;
Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM): (Motorola Inc.) Scottsdale, AZ;
Patriot: (Motorola Inc.) Phoenix, AZ;
Satellite Communications (SATCOM): (Motorola Inc.) Scottsdale, AZ;
Tank Main Gun Ammunition: (Motorola Inc.) Scottsdale, AZ;
Thermal Weapon Sight (TWS): (Motorola Inc.) Scottsdale, AZ

Network Equipment Technologies (63)

Nichols Research Corp. (54)

Avenger: (Nichols Research Corp.) Huntsville, AL;
Line-of-Sight Antitank (LOSAT): (Nichols Research Corp.) Huntsville, AL;
National Missile Defense (NMD): (Nichols Research Corp.) Huntsville, AL;
Stinger: (Nichols Research Corp.) Huntsville, AL

Northrop-Grumman Corp. (31)

Black Hawk: (Northrop-Grumman Corp.) Fleetville, PA;
Brilliant Anti-Armor Submunition (BAT): (Northrop-Grumman Corp.) Hawthorne, CA; (Northrop-Grumman Corp.) Perry, GA;
Comanche: (Northrop-Grumman Corp.) Bethpage, NY;
Integrated Family of Test Equipment (IFTE): (Northrop-Grumman Corp.) Great River, NY;
Joint Surveillance Target Attack Radar (Joint STARS) Ground Station Module (GSM): (Northrop-Grumman Corp.) Melbourne, FL;
Kiowa Warrior: (Northrop-Grumman Corp.) Hawthorne, CA

Ogden Corp. (89)

Olin Corp. (12)

Brilliant Anti-Armor Submunition (BAT): (Olin Corp.) San Leondro, CA;
Crusader: (Olin Corp.) Charleston, TN;
Mortar (120 mm): (Olin Corp.) East Alton, IL;
Soldier System: (Olin Corp.) East Alton, IL;
Tank Main Gun Ammunition: (Olin Corp.) St. Petersburg, FL

Oshkosh Truck Corp. (15)

Heavy Equipment Transporter System (HETS): (Oshkosh Truck Corp.) Oshkosh, WI;
Palletized Load System (PLS): (Oshkosh Truck Corp.) Oshkosh, WI;
Theater High Altitude Area Defense (THAAD) System: (Oshkosh Truck Corp.) Oshkosh, WI

PACIFICorp (84)

Parsons Corp. (78)

Philipp Holzmann AG (68)

Pizzagalli Construction Co. (82)

Raytheon Co. (1)

Airborne Standoff Minefield Detection System (ASTAMIDS): (Raytheon Co.) Tewksbury, MA;
Brilliant Anti-Armor Submunition (BAT): (Raytheon Co.) Manchester, NH;
Digital Transmission Assemblages: (Raytheon Co.) Marlboro, MA;
Extended Range Multiple Launch Rocket System (ER-MLRS): (Raytheon Co.) Tewksbury, MA;
Guardrail Common Sensor (GRCS): (Beech Aircraft) Wichita, KS;
MEADS (Concept Study Contractors): (Team w/GMC's Hughes Electronics) Bedford, MA;
Milstar—Army: (Raytheon Co.) Marlboro, MA;
Mobile Subscriber Equipment (MSE): (Raytheon Co.) Marlboro, MA;
National Missile Defense (NMD): (Raytheon Co.) Wayland, MA;
Patriot: (Raytheon Co.) Bedford, MA;
Theater High Altitude Area Defense (THAAD) System: (Raytheon Co.) Wayland, MA

Rockwell International Corp. (50)

Army Data Distribution System (ADDS): (Defense Electronics Division) Cedar Rapids, IA;
Family Of Medium Tactical Vehicles (FMTV): (Rockwell International Corp.) Oshkosh, WI;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (Rockwell International Corp.) Cedar Rapids, IA;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (Rockwell International Corp.) Cedar Rapids, IA;
Kiowa Warrior: (Rockwell International Corp.) Cedar Rapids, IA;
Laser HELLFIRE: (Rockwell International Corp.) Duluth, GA;
Milstar—Army: (Rockwell International Corp.) Richardson, TX;
National Missile Defense (NMD): (Rockwell International Corp.) Downey, CA;
NAVSTAR Global Positioning System (GPS): (Rockwell International Corp.) Cedar Rapids, IA;
Palletized Load System (PLS): (Rockwell International Corp.) Oshkosh, WI;
Patriot: (Rockwell International Corp.) Anaheim, CA; (Rockwell International Corp.) Dallas, TX

SAIC (6)

Advanced Field Artillery Tactical Data System (AFATDS): (SAIC) San Diego, CA;
Close Combat Tactical Trainer (CCTT): (SAIC) Orlando, FL;
Common Hardware/Software (CHS): (SAIC) San Diego, CA;
Driver's Vision Enhancer (DVE): (SAIC) San Diego, CA;
Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS): (SAIC) San Diego, CA;
Integrated Family of Test Equipment (IFTE): (SAIC) San Diego, CA

SKH Holdings Inc. (60)

SRA International Inc. (64)

Stonebrook Group (97)

Advanced Field Artillery Tactical Data System (AFATDS): (MILTOPE Inc.) Montgomery, AL; (MILTOPE Inc.) Eatontown, NJ;

Comanche: (MILTOPE Inc.) Melville, NY;
Common Hardware/Software (CHS): (MILTOPE Inc.) Melville, NY;
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (MILTOPE Inc.) Birmingham, AL

Teledyne Inc. (55)

Army Tactical Missile System (Army TACMS): (Teledyne Inc.) Hollister, CA; (Teledyne Inc.) Los Angeles, CA;
Comanche: (Teledyne Inc.) Los Angeles, CA; (Teledyne Inc.) Hudson, NH;
Crusader: (Teledyne Inc.) Muskegon, MI;
Force Provider: (Teledyne Brown) Huntsville, AL;
Hercules: (Teledyne Inc.) Muskegon, MI;
National Missile Defense (NMD): (Teledyne Inc.) Huntsville, AL;
Patriot: (Teledyne Inc.) Mountain View, CA;
Sense and Destroy Armor (SADARM): (Teledyne Inc.) Los Angeles, CA

Texas Instruments Inc. (47)

Abrams Tank: (Texas Instruments Inc.) Dallas, TX;
Avenger: (Texas Instruments Inc.) Dallas, TX;
Bradley Fighting Vehicle System (BFVS): (Texas Instruments Inc.) Dallas, TX;
Brilliant Anti-Armor Submunition (BAT): (Texas Instruments Inc.) Midland, TX;
Driver's Vision Enhancer (DVE): (Texas Instruments Inc.) Dallas, TX;
High Mobility Multipurpose Wheeled Vehicle (HMMWV): (Texas Instruments Inc.) Dallas, TX;
Hornet: (Texas Instruments Inc.) Dallas, TX;
Hunter Sensor Suite ATD: (Texas Instruments Inc.) Dallas, TX;
Javelin: (JV w/ Lockheed Martin) Lewisville, TX;
Line-of-Sight Antitank (LOSAT): (Texas Instruments Inc.) Dallas, TX;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Texas Instruments Inc.) Dallas, TX;
Second Generation Foward Looking Infrared (2d Gen FLIR): (Texas Instruments Inc.) McKinney, TX;
Soldier System: (Texas Instruments Inc.) San Antonio, TX;
Special Operations Aircraft (SOA): (Texas Instruments Inc.) McKinney, TX;
Theater High Altitude Area Defense (THAAD) System: (Texas Instruments Inc.) Dallas, TX;
TOW Improved Target Acquisition System (ITAS): (Texas Instruments Inc.) McKinney, TX;
TOW Weapon System: (Texas Instruments Inc.) Dallas, TX

Texas Instruments/Lockheed Martin Javelin Joint Venture (26)

Javelin: (Texas Instruments/Lockheed Martin Javelin Joint Venture) Lewisville, TX

Textron Inc. (27)

Abrams Tank: (Cadillac Gage) Warren, MI; (Textron Lycoming) Stratford, CT;
Armored Gun System (AGS): (Cadillac Gage) Warren, MI;
Grizzly: (Cadillac Gage) Warren, MI;
Hornet: (Textron Defense Systems) Wilmington, MA;
Integrated High Pressure Turbine Engine Technology, Joint Turbine Advanced Gas Generator: (Textron Lycoming) Stratford, CT;
Kiowa Warrior: (Bell Helicopter) Fort Worth TX;
Special Operations Aircraft (SOA): (Textron Lycoming) Stratford, CT

The Renco Group Inc. (22)

TRW Inc. (23)

Airborne Reconnaissance Low (ARL): (TRW Inc.) Sunnyvale, CA;
Battlefield Combat Identification: (TRW Inc.) Redondo Beach, CA;

Battlefield Combat Identification System (BCIS)—Near Term: (TRW Inc.) Redondo Beach, CA;
Comanche: (TRW Inc.) San Diego, CA;
Combat Service Support Control System (CSSCS): (TRW Inc.) Carson, CA;
Force Projection Tactical Operations Center (FP TOC):
Forward Area Air Defense Command, Control and Intelligence (FAADC2I): (TRW Inc.) Redondo Beach, CA;
Guardrail Common Sensor (GRCS): (TRW Inc.) Sunnyvale, CA;
Integrated System Control (ISYSCON): (TRW Inc.) Cambridge, MA;
Line-of-Sight Antitank (LOSAT): (TRW Inc.) Troy, MI;
Milstar—Army: (TRW Inc.) Redondo Beach, CA;
National Missile Defense (NMD): (TRW Inc.) Redondo Beach, CA;
Patriot: (TRW Inc.) Campbell, CA;
Theater High Altitude Area Defense (THAAD) System: (TRW Inc.) Redondo Beach, CA

UNISYS Corp. (58)

Forward Area Air Defense (FAAD) Ground-Based Sensor (GBS): (UNISYS Corp.) King of Prussia, PA;
Guardrail Common Sensor (GRCS): (UNISYS Corp.) Salt Lake City, UT

United Technologies Corp. (13)

Apache Longbow: (Hamilton Standard) Windsor Locks, CT;
Black Hawk: (Sikorsky Aircraft) Stratford, CT;
Comanche: (Hamilton Standard) Windsor Locks, CT; (Sikorsky Aircraft Team w/Boeing) Stratford, CT;
Multiple Launch Rocket System (MLRS): (United Technologies Corp.) Norwalk, CT;
Special Operations Aircraft (SOA): (Sikorsky Aircraft) Stratford, CT;
Theater High Altitude Area Defense (THAAD) System: (United Technologies Corp.) San Jose, CA

Westinghouse Electric Corp. (72)

Airborne Standoff Minefield Detection System (ASTAMIDS): (Westinghouse Electric Corp.) Baltimore, MD;
Apache Longbow: (JV w/ Lockheed Martin) Baltimore, MD; (JV w/ Lockheed Martin) Dallas, TX;
Comanche: (Westinghouse Electric Corp.) Baltimore, MD;
Laser HELLFIRE: (JV w/ Lockheed Martin) Baltimore, MD;
Longbow HELLFIRE (JV w/Lockheed Martin) Baltimore, MD;
Night Vision/Reconnaissance, Surveillance & Target Acquisition (NV/RSTA): (Westinghouse Electric Corp.) Baltimore, MD;
Tactical Endurance Synthetic Aperture Radar (TESAR): (Westinghouse Electric Corp.) Baltimore, MD; (Westinghouse Electric Corp.) Albequerque, NM;
Theater High Altitude Area Defense (THAAD) System: (Westinghouse Electric Corp.) Sunnyvale, CA; (Westinghouse Electric Corp.) Baltimore, MD

WMX Technologies Inc. (73)

Young & Rubicam Inc. (87)

Abrams:

Project Manager
Abrams Tank System
ATTN: SFAE-ASM-AB
Warren, MI 48397-5000

Advanced Field Artillery Tactical Data System (AFATDS):

Product Manager
AFATDS
ATTN: SFAE-C3S-FS
Ft. Monmouth, NJ 07703

Advanced Integrated Collective Protection System (AICPS):

U.S. Army Edgewood Research Development and Engineering Center
ATTN: SCBRD-CE/AICPS
Bldg. E3549
Aberdeen Proving Ground, MD 21010-5423

Advanced Quick Fix (AQF):

Project Manager
Signals Warfare
ATTN: SFAE-IEW-SG
Vint Hill Farms Station
Warrenton, VA 22186-5116

Airborne Reconnaissance Low (ARL):

Project Manager
Signals Warfare
ATTN: SFAE-IEW-SG
Vint Hill Farms Station
Warrenton, VA 22186-5116

Airborne Standoff Minefield Detection System (ASTAMIDS):

Project Manager
Mines, Countermine, and Demolitions
Building 162N
Picatinny Arsenal, NJ 07806-5000

All Source Analysis System (ASAS):

Project Manager
All Source Analysis System
1616 Anderson Rd.
McLean, VA 22102-1616

Apache Longbow:

Product Manager
Longbow Apache
ATTN: SFAE-AV-LB
4300 Goodfellow Boulevard.
St. Louis, MO 63120-1795

Armored Gun System (AGS):

Project Manager
Armored Gun System
ATTN: SFAE-ASM-AG
Warren, MI 48397-5000

Army Data Distribution System (ADDS):

Project Manager
TRCS
ATTN: SFAE-C3S-TRC
Ft. Monmouth, NJ 07703

Army Global Command and Control System (AGCCS):

Program Executive Office
Command, Control and Communications
Project Manager, STCCS
6052 Meade Road, Suite 101
Ft. Belvoir, VA 22060-5260

Army Tactical Missile System (Army TACMS):

Project Manager
Army TACMS
ATTN: SFAE-MSL-AT
Redstone Arsenal, AL 35898-5650

Avenger:

Project Manager
FAAD
ATTN: SFAE-MSL-FAD
Redstone Arsenal, AL 35898-5630

Battlefield Combat Identification System (BCIS) Near Term:

Project Manager
Combat Identification
ATTN: SFAE-IEW-CI-BCIS
Ft. Monmouth, NJ 07703

Project Manager
Combat Identification
Skyline 6, Suite 309
Falls Church, VA 22041

Black Hawk:

Project Manager
Utility Helicopters
ATTN: SFAE-AV-BH
4300 Goodfellow Boulevard
St. Louis, MO 63120-1798

Bradley Fighting Vehicle System (BFVS):

Program Manager
Bradley Fighting Vehicle System
ATTN: SFAE-ASM-BV
Warren, MI 48397-5000

Brilliant Anti-Armor Submunition (BAT):

Project Manager
Army TACMS-BAT
ATTN: SFAE-MSL-AB
Redstone Arsenal, AL 35898-7998

Circuit Switch And Message Switch:

Project Manager
JTACS
ATTN: SFAE-C3S-JTC
Ft. Monmouth, NJ 07703

CECOM Commodity Command
ATTN: AMSEL-LC-MMR-T
Ft. Monmouth, NJ 07703

Close Combat Tactical Trainer (CCTT):

Product Manager
Central Florida Research Park
ATTN: AMCPM-CCTT
12350 Research Parkway
Orlando, FL 32826-3276

Army Materiel Command (AMC)
5001 Eisenhower Avenue
ATTN: AMCRD-S
Alexandria, VA 22333-0001

Comanche:

Project Manager
Comanche
ATTN: SFAE-AV-RAH (Bldg. 105)
4300 Goodfellow Boulevard
St. Louis, MO 63120-1795

Combat Service Support Control System (CSSCS):

Product Manager
CSSCS
6020 Meade Rd., Suite 103
Ft. Belvoir, VA 22060-5259

Command and Control Vehicle (C2V):

Product Manager
Command and Control Vehicle
ATTN: SFAE-ASM-BV
Warren, MI 48397-5000

Common Hardware/Software (CHS):

Project Manager
Common Hardware/ Software
ATTN: SFAE-C3S-CHS
Ft. Monmouth, NJ 07703-5402

Crusader:

Project Manager
Crusader
ATTN: SFAE-FAS-CR
Picatinny Arsenal, NJ 07806-5000

Deployable Medical Systems (DEPMEDS):

Commander
U.S. Army Medical Material Agency
ATTN: MCMR-MM-R
Frederick, MD 21702-5001

HQ, U.S. Army Aviation and Troop Command
4300 Goodfellow Boulevard.
ATTN: AMSAT-W-TV
St. Louis, MO 63120-1798

Digital Transmission Assemblages:

Project Manager
JTACS (P)
ATTN: SFAE-CM-MSC-CTS
Ft. Monmouth, NJ 07703

Commodity Command
CECOM-DMM
ATTN: AMSEL-LC-MMR-T
Ft. Monmouth, NJ 07703

Driver's Vision Enhancer (DVE):

Project Manager
NV/RSTA
10221 Burbeck Road, Suite 430
Ft. Belvoir, VA 22060-5806

Enhanced Trackwolf (ET):

Project Manager
Signals Warfare
ATTN: SFAE-IEW-SG
Vint Hill Farms Station
Warrenton, VA 22186-5116

Extended Range Multiple Launch Rocket System (ER-MLRS):

Project Manager
Multiple Launch Rocket System
ATTN: SFAE-MSL-ML-PGM
Redstone Arsenal, AL 35898-5650

Family of Medium Tactical Vehicles (FMTV):

Project Manager
FMTV
ATTN: SFAE-TWV-FMTV
Warren, MI 48397-5000

Force Projection Tactical Operations Center (FP TOC):

Product Manager
ADCCS Project Office
ATTN: SFAE-C3S-AD-CP
Redstone Arsenal, AL 35898

Force Provider:

Product Manager
HQ, U.S. Army Aviation and Troop Command
ATTN: AMCPM-FP
4300 Goodfellow Boulevard
St. Louis, MO 63120-1798

Forward Area Air Defense Command and Control (FAADC2):

Product Manager
ADCCS Project Office
ATTN: SFAE-C3S-AD
Redstone Arsenal, AL 35898

Forward Area Air Defense (FAAD) Ground Based Sensor (GBS):

Product Manager
FAAD Sensor
ATTN: SFAE-IEW-GSI
Redstone Arsenal, AL 35898-5796

Generator, Smoke, Mechanical: Motorized for Dual Purpose Units (M56):

Product Manager
Smoke/Obscurants
ATTN: AMCPM-SM
Aberdeen Proving Ground, MD 21010-5423

Generator, Smoke, Mechanical: Mechanized Smoke Obscurant System (M58):

Product Manager
Smoke/Obscurants
ATTN: AMCPM-SM
Aberdeen Proving Ground, MD 21010-5423

Grizzly:

Project Manager
Combat Mobility Systems
ATTN: SFAE-ASM-CV-B
Warren, MI 48397-5000

Ground Based Common Sensor (GBCS):

Project Manager
Signals Warfare
ATTN: SFAE-IEW-SG
Vint Hill Farms Station
Warrenton, VA 22186-5116

Guardrail/ Common Sensor (GR/CS):

Program Manager
Signals Warfare
ATTN: SFAE-IEW-SG
Vint Hill Farms Station
Warrenton, VA 22186-5116

Heavy Equipment Transporter System (HETS):

Program Executive Officer
Combat Support
ATTN: SFAE-CS
Warren, MI 48397-5000

Program Manager
Heavy Tactical Vehicles
ATTN: SFAE-CS-TVH
Warren, MI 48397-5000

Hercules:

Project Manager,
Combat Mobility Systems
ATTN: SFAE-ASM-CV-R
Warren, MI 48397-5000

High Mobility Artillery Rocket System (HIMARS):

Project Manager
MLRS
ATTN: SFAE-MSL-ML-SP
Redstone Arsenal, AL 35896

High Mobility Multipurpose Wheeled Vehicle (HMMWV):

Program Executive Officer
Tactical Wheeled Vehicles
ATTN: SFAE-TWV
Warren, MI 48397-5000

Project Manager
Tactical Vehicle Special Programs
ATTN: SFAE-CS-TVSP
Warren, MI 48397-5000

Hornet:

Project Manager
Mines, Countermine, and Demolitions
ATTN: SFAE-ASM-MCD
Picatinny Arsenal, NJ 07806-5000

Howitzer (M119A1):

U.S. Army Armament Chemical Acquisition & Logistics Activity
ATTN: AMSTA-AC-WSH
Rock Island Arsenal, IL 61299-6000

Hydra 70 Rocket System:

Chief, Hydra-70/2.75 Inch Rocket Management Office
ATTN: AMSMC-ASH
Rock Island, IL 61299-6000

Integrated Family of Test Equipment (IFTE):

Product Manager
Automatic Test Support Systems
ATTN: PM-ATSS
Redstone Arsenal, AL 35898-5400

Integrated System Control (ISYSCON):

Project Manager
JTACS CECOM
ATTN: SFAE-C3S-JTC
(Product Manager, CMS)
Ft. Monmouth, NJ 07703

Javelin:

Project Manager
Javelin
ATTN: SFAE-MSL-AM
Redstone Arsenal, AL 35898-5720

Joint Surveillance Target Attack Radar System (Joint STARS) Ground Station Module (GSM):

Army Project Manager
Joint STARS
ATTN: SFAE-IEW-JS
Ft. Monmouth, NJ 07703-5304

Joint Tactical Ground Station (JTAGS):

Program Executive Office
Missile Defense
ATTN: SFAE-GPL-TMD-SS-P
P.O. Box 1500
Huntsville, AL 35807-3801

Joint Tactical Terminal (JTT):

Project Manager
Joint STARS
ATTN: SFAE-IEW-JS
Ft. Monmouth, NJ 07703-5304

Kiowa Warrior:

Project Manager
Kiowa Warrior
ATTN: SFAE-AV-ASH-T
4300 Goodfellow Boulevard
St. Louis, MO 63120-1798

Laser HELLFIRE:

Project Manager
Air-to-Ground Missile Systems
ATTN: SFAE-MSL-HD
Redstone Arsenal, AL 35898-5610

Line-of-Sight Antitank (LOSAT):

Project Manager
LOSAT
ATTN: SFAE-ASM-LS
Redstone Arsenal, AL 35898-8051

Longbow HELLFIRE:

Product Manager
ATTN: SFAE-MSL-HD
Redstone Arsenal, AL 35898-5610

M113 Family of Vehicles:

Product Manager
U.S. Army Tank and Automotive Command
AMCPM-M113
Warren, MI 48397-5000

Maneuver Control System (MCS):

Project Manager
Operations Tactical Data Systems
ATTN: SFAE-CC-MVR
Ft. Monmouth, NJ 07703-5405

Medium Extended Air Defense System (MEADS):

Project Manager
MEADS
ATTN: SFAE-MD-SM
Redstone Arsenal, AL 35898-5797

Milstar (Army):

Program Manager
Milstar (Army)
ATTN: SFAE-C3S-MSA
Ft. Monmouth, NJ 07703

Mobile Subscriber Equipment (MSE):

Project Manager
JTACS
ATTN: SFAE-C3S-JTC
Ft. Monmouth, NJ 07703-5210

Mortar (120 mm):

Product Manager
U.S. Armament Research, Development, and Engineering Center
ATTN: AMCPM-MO
Picatinny Arsenal, NJ 07806-5000

Multiple Launch Rocket System (MLRS):

Project Manager
MLRS
ATTN: SFAE-MSL-ML
Redstone Arsenal, AL 35896

Multi-Purpose Individual Munition/ Short Range Assault Weapon (MPIM/SRAW):

Product Manager
MPIM/SRAW
ATTN: G31, Naval Surface Warfare Center
17320 Dahlgren Road
Dahlgren, VA 22448-5100

National Missile Defense (NMD):

Program Executive Office
ATTN: SFAE-MD-NMD
P.O. Box 1500
Redstone Arsenal, AL 358087-5801

NAVSTAR Global Positioning System (GPS):

Project Manager
GPS
ATTN: SFAE-C3-GPS
Ft. Monmouth, NJ 07703

Night Vision/ Reconnaissance, Surveillance & Target Acquisition (NV/RSTA):

Project Manager
NV/RSTA
10221 Burbeck Road, Suite 430
Ft. Belvoir, VA 22060-5806

Nuclear, Biological and Chemical (NBC) Detection:

Project Manager
NBC Defense Systems
ATTN: AMCPM-NN
Aberdeen Proving Ground, MD 21010-5423

Office of Program Director
NBC Defense
ATTN: AMSCB-BD
Aberdeen Proving Ground, MD 21010-5423

Joint Program Office for Biological Defense Systems

ATTN: SFAE-BD/Skyline #5
5111 Leesburg Pike
Falls Church, VA 22041

NBC Reconnaissance System (NBCRS) Fox:

Project Manager
ATTN: AMCPM-NN
Aberdeen Proving Ground, MD 21010

Paladin (M109A6 Self-Propelled Howitzer):

Product Manager
Paladin/FAASV
ATTN: SFAE-FAS-PAL
Picatinny Arsenal, NJ 07806-5000

Palletized Load System (PLS):

Program Executive Officer
Tactical Wheeled Vehicles
ATTN: SFAE-TWV
Warren, MI 48397-5000

Program Manager
Palletized Load System
ATTN: SFAE-CS-PLS
Warren, MI 48397-5000

Patriot:

Product Manager
ATTN: SFAE-MD-PA
P.O. Box 1500
Huntsville, AL 35807-3801

Protective Mask (M40 Series):

Project Manager
NBC Defense
ATTN: AMCPM-NN
Aberdeen Proving Ground, MD 21010

Rail Cars:

Department of the Army
HQ, US Army Troop Support Command
4300 Goodfellow Boulevard
St. Louis, MO 63120-1798

Satellite Communications (SATCOM):

Project Manager
SATCOM
ATTN: SFAE-C3S-SC
Ft. Monmouth, NJ 07703

Program Manager
Milstar (Army)
ATTN: SFAE-C3-MSA
Ft. Monmouth, NJ 07703

Second Generation FLIR:

Product Manager
GEN II FLIR
10221 Burbeck Road, Suite 430
Ft. Belvoir, VA 22060-5806

Sense and Destroy Armor (SADARM):

Project Manager
Sense and Destroy Armor
ATTN: SFAE-FAS-SD
Picatinny Arsenal, NJ 07806-5000

Single Channel Ground and Airborne Radio System (SINCGARS):

Product Manager
TRCS
ATTN: SFAE-C3S-TRC
Ft. Monmouth, NJ 07703

Small Arms (M4 Carbine, M9 9mm Personal Defense Weapon, M16A2 Rifle, MK19-3 40mm Automatic Grenade Launcher, M249 Squad Automatic Weapon):

Product Manager
Small Arms
U.S. Army Armament Research, Development, and Engineering Center
ATTN: AMCPM-SA
Picatinny Arsenal, NJ 07806-5000

Soldier System:

Program Manager
Soldier
14050 Dawson Beach Rd.
Woodbridge, VA 22919

ATCOM
4300 Goodfellow Boulevard.
St. Louis, MO 63120

AMCCOM
ATTN: AMSMC-RT
Rock Island, IL 61299

CECOM
ATTN: AMSEL-RD
Ft. Monmouth, NJ 07703

Special Operations Aircraft (SOA):

Project Manager
Special Operations Aircraft (SOA)
ATTN: SFAE-AV-SOA
St. Louis, MO 63120-1798

Standard Army Management Information Systems (STAMIS):

Program Executive Office STAMIS
ATTN: SFAE-PS
Stop C-3
Ft. Belvoir, VA 22060-5895

Standardized Integrated Command Post System (SICPS):

Project Manager, Common Hardware/Software
Product Manager, SICPS
Ft. Monmouth, NJ 07703

Stinger:

FAAD Project Office
ATTN: SFAE-MSL-FAD
Redstone Arsenal, AL 35898-5630

Tactical Endurance Synthetic Aperture Radar (TESAR):

Product Manager
TESAR
Ft. Monmouth, NJ 07703-5000

Tactical Quiet Generators (TQG):

DoD Project Manager–Mobile Power
Mobile Electric Power
7500 Backlick Road
Springfield, VA 22150-3107

Department of the Army
HQ, U.S. Army Aviation and Troop Command
St. Louis, MO 63120-1798

Tactical Unmanned Aerial Vehicle (UAV):

Project Manager
Joint Tactical Unmanned Aerial Vehicle
ATTN: PEO-CU-UAV
Redstone Arsenal, AL 35898-5791

Tank Main Gun Ammunition:

Project Manager
Tank Main Armament Systems (PM-TMAS)
ATTN: SFAE-AR-TMA
Picatinny Arsenal, NJ 07806-5000

Theater High Altitude Area Defense (THAAD) System:

Project Manager
ATTN: SFAE-MD-THA
P.O. Box 1500
Huntsville, AL 35807-3801

Thermal Weapon Sight (TWS):

Project Manager
NV/RSTA
10221 Burbeck Road, Suite 430
Ft. Belvoir, VA 22060-5806

TOW Improved Target Acquisition System (ITAS):

Product Manager
ITAS
ATTN: SFAE-MSL-CC
Redstone Arsenal, AL 35898-5710

TOW Missile:

Project Manager
Close Combat Anti-Armor Weapon Systems
ATTN: SFAE-MSL-CC
Redstone Arsenal, AL 35898-5710

Volcano:

Project Manager
Mines, Countermine, and Demolitions
ATTN: SFAE-ASM-MCD
Picatinny Arsenal, NJ 07806-5000

Wolverine:

Project Manager
Combat Mobility Systems
ATTN: SFAE-ASM-CV-H
Warren, MI 48397-5000

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